

MVC-FD100/FD100H/FD200/FD200H

SERVICE MANUAL

Level 2



Ver 1.4 2003. 09

FD Mavica



MEMORY STICK



Photo: MVC-FD200

US Model
MVC-FD100/FD100H/FD200/FD200H
Canadian Model
MVC-FD100/FD200
AEP Model
UK Model
MVC-FD200
E Model
Australian Model
Japanese Model
MVC-FD100/FD200
Brazilian Model
MVC-FD100

This service manual contains information for Japanese model as well.

**When the machine needs to be repaired,
please refer to page 7 to discriminate the
type of CCD.**

On the FC-89 board

This service manual provides the information that is premised the circuit board replacement service and not intended repair inside the FC-89 board.

Therefore, schematic diagram, printed wiring board and electrical parts list of the FC-89 board are not shown.

The following pages are not shown.

FC-89 board

Schematic diagram Pages 4-11 to 4-30
Printed wiring board Pages 4-43 to 4-46
Electrical parts list Pages 6-9 to 6-15

The above-described information is shown in service manual Level 3.

SPECIFICATIONS

System

Image device

6.64 mm (1/2.7 type)
Color CCD

Effective pixels number of camera

MVC-FD100:
Approx. 1 228 000 pixels
MVC-FD200:
Approx. 1 976 000 pixels

Lens

3 \times zoom lens
f = 6.4 – 19.2 mm (9/32 – 25/32 inches)
(41 – 123 mm
(1 5/8 – 4 7/8 inches) when
converted into a 35 mm still
camera)
F = 3.8 – 3.9

Exposure control

Automatic exposure

White balance

Automatic, Indoor, Outdoor,
Hold

Data system

Movie: MPEG
Still: JPEG, GIF (in TEXT
mode, Clip Motion), TIFF
MPEG

Recording medium

Floppy disk:
3.5-inch 2HD MS-DOS
format (1.44 MB)
"Memory Stick"

Flash

Recommended recording
distance (ISO set to AUTO):
0.5 m to 2.0 m (1 2/3 feet to
6 2/3 feet)

Input and Output connector

VIDEO OUT

Minijack
Video: 1 Vp-p, 75 Ω ,
unbalanced, sync negative

USB jack

mini-B

LCD screen

LCD panel
6.2 cm (2.5 type)
TFT (Thin Film Transistor
active matrix) drive

Total number of dots
123 200 (560 \times 220) dots

General

Application
Sony battery pack NP-F330
(supplied)/F550 (Optional)

Power requirements
7.2 V

Power consumption
(During shooting and
LCD backlight is on)

MVC-FD100: 3.5 W
MVC-FD200: 3.6 W

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to +60°C (–4°F to
+140°F)

Dimensions (Approx.)
142 \times 104 \times 77 mm (5 1/2 \times
4 \times 3 inches) (w/h/d)

Mass (Approx.)
645 g (1 lb 7 oz)
(including NP-F330 battery
pack, floppy disk and lens
cap, etc.)

AC-L10A/L10B AC power adaptor

Power requirements
100 to 240 V AC, 50/60 Hz

Rated output voltage
DC 8.4 V, 1.5 A in operating
mode

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to +60°C (–4°F to
+140°F)

Dimensions (Approx.)
125 \times 39 \times 62 mm (5 \times 1 9/16 \times
2 1/2 inches) (w/h/d)

Mass (Approx.)
280 g (10 oz)

NP-F330 battery pack

Battery type
Lithium ion

Maximum output
voltage
DC 8.4 V

Mean output voltage
DC 7.2 V

Capacity
5.0 Wh (700 mAh)

Operating temperature
0°C to 40°C (32°F to 104°F)

Dimensions (Approx.)
38.4 \times 20.6 \times 70.8 mm
(1 9/16 \times 13/16 \times 2 7/8 inches)
(w/h/d)

Mass (Approx.)
70 g (2 oz)

Accessories

AC-L10A/L10B
AC power adaptor (1)
Power cord (mains lead) (1)
USB cable (1)
NP-F330 battery pack (1)
VIDEO connecting cable (1)
Shoulder strap (1)
Lens cap (1)
Lens cap strap (1)
CD-ROM (SPVD-008 USB
Driver) (1)
Operating instructions (1)

Design and specifications
are subject to change
without notice.

DIGITAL STILL CAMERA

SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK 0 OR DOTTED LINE WITH MARK 0 ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE 0 SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
 - Keep the temperature of the soldering iron around 270 °C during repairing.
 - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
 - Be careful not to apply force on the conductor when soldering or unsoldering.

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.

(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)



: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
Soldering irons using a temperature regulator should be set to about 350 °C .
Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

• **Floppy disk that can be used by the MVC-FD100/FD200**

- Size : 3.5-inch
- Type : 2 HD
- Capacity : 1.44 MB
- Format : MS-DOS format
(512 bytes · 18 sector)
(FD can be formatted by the MVC-FD100/FD200)

Table for differences of function

| Model | MVC-FD100 | | MVC-FD200 | MVC-FD100H (Note 2) | | MVC-FD200H (Note 2) |
|--------------------------------------|-----------------------------------|---------------------|--------------------------------|------------------------|---------------------|------------------------|
| Destination | US, Canadian, E, Australian, J | | US, Canadian, AEP, UK, E, J | US | | US |
| Effective pixels number of camera | Approx. 1228 k pixels | | Approx. 1976 k pixels | Approx. 1228 k pixels | | Approx. 1976 k pixels |
| CD board (Note 1) | CD-379 (TYPE PA) | CD-390 (TYPE SO) | CD-390 | CD-379 (TYPE PA) | CD-390 (TYPE SO) | CD-390 |

Note 1: Type of CCD imager is different according to the CD board in MVC-FD100.
Refer to page 7 to discriminate the type of CCD.

Note 2: MVC-FD100H/FD200H are the same as MVC-FD100/FD200 (US model) except packing materials.
Therefore, information about MVC-FD100/FD200 (US model) in the text is applied.

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6. REPAIR PARTS LIST

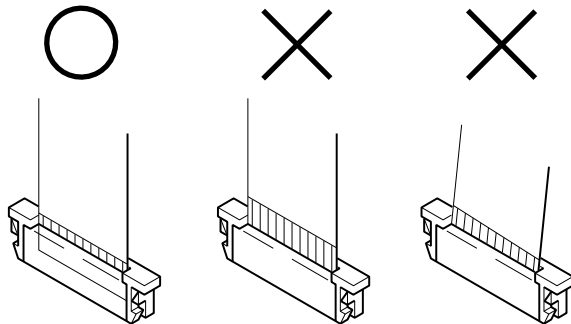
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|--|
| * The color reproduction frame is shown on page 151. |
|--|

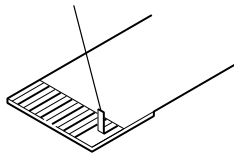
SERVICE NOTE

• NOTE FOR REPAIR

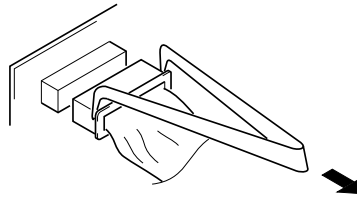
Make sure that the flat cable and flexible board are not cracked or bent at the terminal.
Do not insert the cable insufficiently nor crookedly.



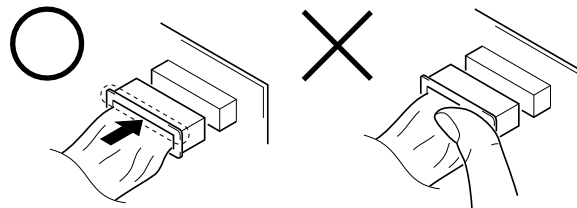
Cut and remove the part of gilt which comes off at the point.
(Be careful or some pieces of gilt may be left inside)



When remove a connector, don't pull at wire of connector.
It is possible that a wire is snapped.



When installing a connector, don't press down at wire of connector.
It is possible that a wire is snapped.

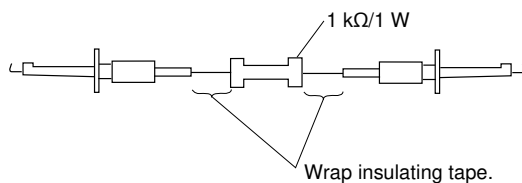


[Discharging of the FLASH unit's charging capacitor]

The charging capacitor of the FLASH unit is charged up to the maximum 300 V potential.
There is a danger of electric shock by this high voltage when the battery is handled by hand. The electric shock is caused by the charged voltage which is kept without discharging when the main power of the MVC-FD100/FD200 is simply turned off. Therefore, the remaining voltage must be discharged as described below.

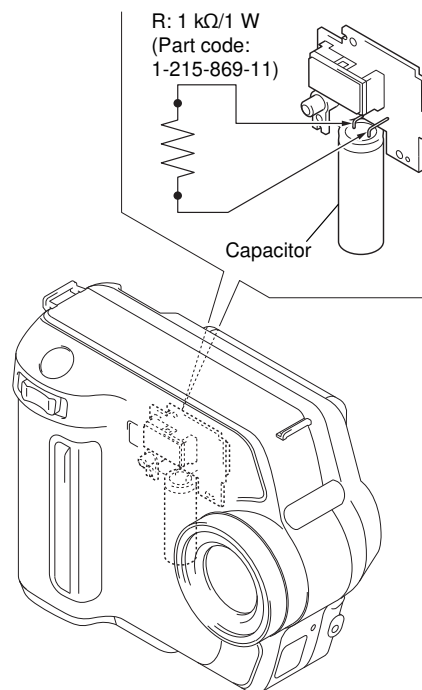
Preparing the Short Jig

To preparing the short jig, a small clip is attached to each end of a resistor of 1 k Ω / 1 W (1-215-869-11).
Wrap insulating tape fully around the leads of the resistor to prevent electrical shock.



Discharging the Capacitor

Short-circuit between the positive and the negative terminals of charged capacitor with the short jig about 10 seconds.



[CCD type discrimination] (MVC-FD100 only)

Note: About CD board, FC-89 board and CCD imager, discriminate CCD type on the machine, and replace the same type.

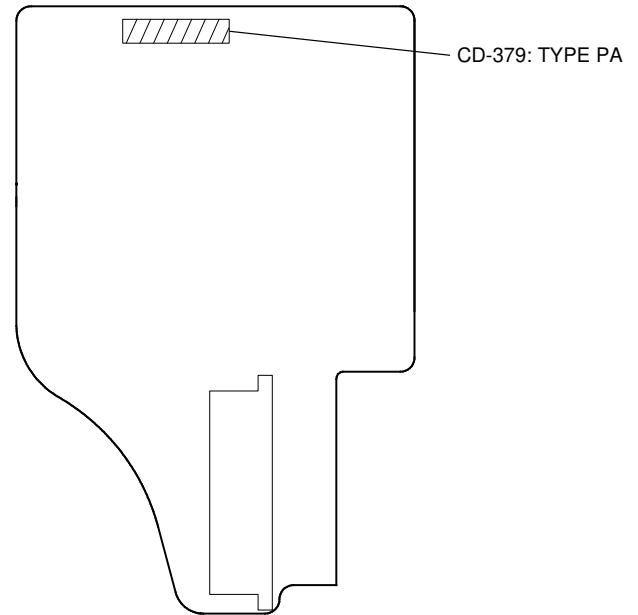
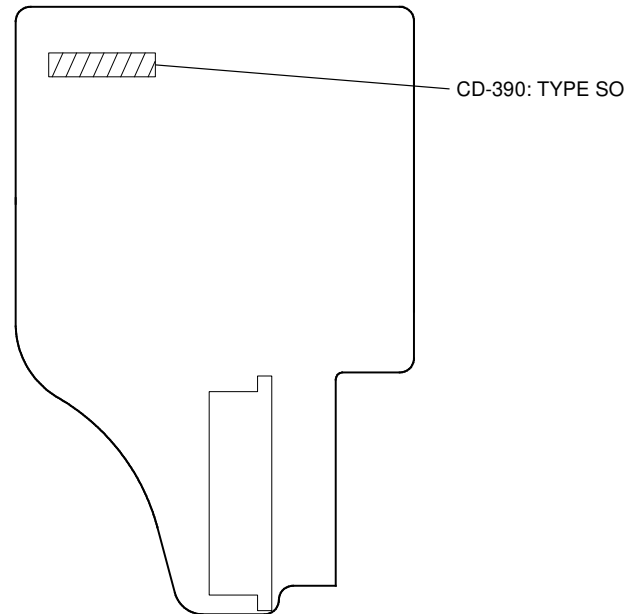
- Discrimination method by adjusting remote commander.

Checking method:

- 1) Select page: 6, address: 03
- 2) By checking the data value of display data, the type of CCD can be discriminated.

| Data | CCD Type |
|------|----------|
| 15 | TYPE PA |
| 17 | TYPE SO |

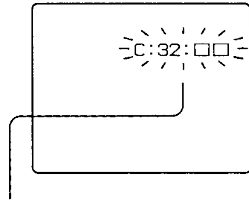
- Discrimination method by CD board (Board name check).

– CD-379 Board (Side A) –**– CD-390 Board (Side A) –**

[Description on Self-diagnosis Display]

Self-diagnosis display

The camera has a self-diagnosis display. This function displays the camera condition with five-digits (a combination of a letter and figures) on the LCD screen. If this occurs check the following code chart. The five-digit display informs you of the camera current condition. The last two digits (indicated by □□) will differ depending on the state of the camera.



Self-diagnosis display

- C: □□: □□
You can reverse the camera malfunction yourself.
- E: □□: □□
Contact your Sony dealer or local authorized Sony service facility.

Note : The “Self-diagnosis” data is backed up by the coin lithiumbattery. The data will be lost and initialized when the coin lithium battery is removed.

| Display Code | Countermeasure | Cause | Caution Display During Error |
|--------------|--|--|--|
| C:32:01 | Change the disk and turn off the main power then back on. | Defective floppy disk. | DRIVE ERROR |
| C:13:01 | Replace the floppy disk or “Memory Stick”. Format the floppy disk or “Memory Stick” with the MVC-FD100/FD200. | <ul style="list-style-type: none"> • The type of floppy disk that cannot be used by this machine, is inserted. (Such as 2DD) • Data is damaged. • Unformatted disk or “Memory Stick” is inserted. | DISK ERROR MEMORY STICK ERROR |
| E:91:01 | Checking of flash unit or replacement of flash unit | Abnormality when flash is being charged. *1 | Flash LED Flash display Flashing at 3.2 Hz |
| E:61:00 | Checking of lens drive circuit | When failed in the focus initialization. | — |
| E61:10 | | | |

Note : The error code is cleared if the battery is removed, except defective flash, unit.

*1: When the flash charging failed, Page: D, Address: 67, Data: 04 are written.

After repair, be sure to write Page: D, Address: 67, Data: 00.

[Power supplying Method]

Use the AC power adaptor (AC-L10A) when supplying the power to this set.

SECTION 1 GENERAL

This section is extracted from MVC-FD100/FD200 instruction manual.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

For the Customers in the U.S.A.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

If you have any questions about this product, you may call:
Sony Customer Information Center
1-800-222-SONY (7669)
The number below is for the FCC related matters only.

Regulatory Information

Declaration of Conformity

Trade Name: SONY
Model No.: MVC-FD100
Responsible Party: Sony Electronics Inc.
Address: 680 Kinderkamack Road, Oradell, NJ, 07649 USA
Telephone No.: 201-930-6972

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity

Trade Name: SONY
Model No.: MVC-FD200
Responsible Party: Sony Electronics Inc.
Address: 680 Kinderkamack Road, Oradell, NJ, 07649 USA
Telephone No.: 201-930-6972

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is

no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The supplied interface cable must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

For the Customers in the U.S.A. and Canada

RECYCLING LITHIUM-ION BATTERIES

Lithium-Ion batteries are recyclable. You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you.



For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit <http://www.rbr.org/>.

Caution: Do not handle damaged or leaking Lithium-Ion batteries.

CAUTION

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

NOTICE FOR THE CUSTOMERS IN THE UNITED KINGDOM

A moulded plug complying with BS 1363 is fitted to this equipment for your safety and convenience. Should the fuse in the plug supplied need to be replaced, a 5 AMP fuse approved by ASTA or BSI to BS 1362, (i.e. marked with ⚡ or ⚡ mark) must be used.

If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service station.

For the Customers in Germany

Directive: EMC Directive 89/336/EEC. 92/31/EEC

This equipment complies with the EMC regulations when used under the following circumstances:

- Residential area
- Business district
- Light-industry district

(This equipment complies with the EMC standard regulations EN55022 Class B.)

Attention for the Customers in Europe

This product has been tested and found compliant with the limits sets out on the EMC Directive for using connection cables shorter than 3 meters (9.8 feet).

The electromagnetic fields at the specific frequencies may influence the picture of this camera.

2

Be sure to read the following before using your camera

Operating instructions

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

As you read through this manual, buttons and settings on the camera are shown in capital letters.
e.g. Press DISPLAY.

Trial recording

Before you record one-time events, you may want to make a trial recording to make sure that the camera is working correctly.

No compensation for contents of the recording

The recorded images cannot be compensated if recording or playback cannot be performed due to a trouble of your camera or recording medium.

Notes on image data compatibility of the "Memory Stick"

- This camera conforms with the Design rule for Camera File system universal standard established by the JEITA (Japan Electronics and Information Technology Industries Association). You cannot play back on your camera still images recorded on other equipment (DCR-TRV890E/TRV900/TRV900E, DSC-D700, DSC-D770) that does not conform with this universal standard. (These models are not sold in some areas.)
- Playback of images recorded with your camera on other equipment and playback of images recorded or edited with other equipment on your camera are not guaranteed.

Precaution on copyright

Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Do not shake or strike the camera

In addition to malfunctions and inability to record images, this may render the floppy disks or the "Memory Stick"s unusable or image data breakdown, damage or loss may occur.

LCD screen, finder (only models with a finder) and lens

- The LCD screen and the finder are manufactured using extremely high-precision technology so over 99.99% of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue or green in color) that constantly appear on the LCD screen and the finder. These points are normal in the manufacturing process and do not affect the recording in any way.
- Be careful when placing the camera near a window or outdoors. Exposing the LCD screen, the finder or the lens to direct sunlight for long periods may cause malfunctions.

Do not get the camera wet

When taking pictures outdoors in the rain or under similar conditions, be careful not to get the camera wet. If moisture condensation occurs, refer to page 83 and follow the instructions on how to remove it before using the camera.

Back up recommendation

To avoid the potential risk of data loss, always copy (back up) data to a disk.

When the camera is used for long periods

Note that the camera body may become hot.

3

Introduction

Check images after recording

Recording still images:

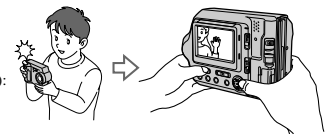
page 18

Playing back still images:

page 24

Deleting images (DELETE):

page 75

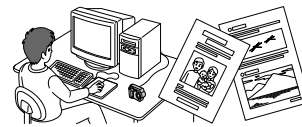


Capture images with your computer

You can copy images onto your computer and view and modify images or attach images to e-mail on your computer using the supplied USB cable and application software.

Viewing images using a computer: page 27

Recording still images for e-mail (E-MAIL): page 61



Records a moving picture

The digital still camera can record a moving picture for maximum 60 seconds. Your camera does not record sound.

Recording moving images: page 23



Select from various recording modes

Creating Clip Motion Files: page 59

Recording text documents (TEXT): page 62

Recording still images as uncompressed files (TIFF): page 63

4

5

Getting started

Identifying the parts

See the pages in parentheses for details of operation.

1

2

3

4

5

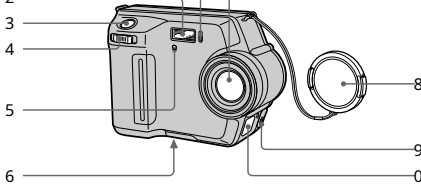
6

7

8

9

0



A Self-timer lamp (21)

B Flash (22)

C Shutter button (18, 23)

D Zoom lever (20)

E Photocell window for flash
Do not block while recording.

F Tripod receptacle (bottom surface)
Use a tripod with a screw length of less than 5.5 mm (7/32 inch). You cannot firmly secure the camera to tripods having longer screws, and may damage the camera.

G Lens

H Lens cap (supplied)

I VIDEO OUT jack (73)

J DC IN cover/DC IN jack (10, 13)

Getting started

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qa

qs

qd

qf

qg

qh

qj

qk

ql

wa

ws

wd

wf

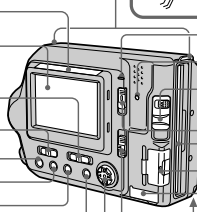
wg

wh

wj

wk

wl



K Photocell window for LCD screen
The LCD screen becomes brighter when exposed to sunlight.

L LCD screen

M PLAY/STILL/MOVIE selector (48)

N LCD BACKLIGHT switch (20)

O $\frac{1}{4}$ (Flash) button/
 $\frac{1}{4}$ (Flash) lamp (22)

P FOCUS button (64)

Q PROGRAM AE button (65)

R DISPLAY button (21)

S Control button (48)

T Hooks for strap

U POWER ON/OFF (CHG) (Charge) lamp (10)

V Access lamp (18, 19)

W DISK EJECT lever (16)

X POWER switch (14)

Y Floppy disk slot (16)

Z "Memory Stick" cover/
"Memory Stick" slot (17)

wj USB cover/USB jack (29)

wk Battery cover (9)

wl MS /FD ("Memory Stick"/floppy disk) selector

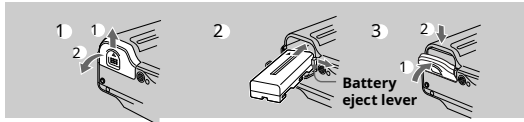
Attaching the shoulder strap

8

Preparing the power supply

Installing the battery pack

Your camera operates only with the NP-F330 (supplied)/F550 (optional) "InfoLITHIUM" battery pack* (L series). See page 86 for more information about "InfoLITHIUM" battery pack.



- 1

Open the battery cover.
Slide the battery cover in the direction of the arrow.
- 2

Install the battery pack.
Press and hold the battery eject lever and then insert the battery pack with the mark facing toward the battery compartment.
- 3


Close the battery cover.

To remove the battery pack

Open the battery cover. Slide the battery eject lever rightward, and remove the battery pack.
Be careful not to drop the battery pack when removing it.

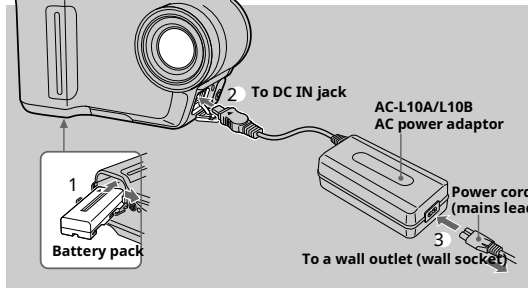


Battery eject lever

* What is "InfoLITHIUM"?
"InfoLITHIUM" is a lithium ion battery pack which can exchange information such as battery consumption with compatible video equipment. "InfoLITHIUM" L series battery packs have the  mark. "InfoLITHIUM" is a trademark of Sony Corporation.

Charging the battery pack

You cannot charge the battery pack. Be sure to turn off



- 1

Insert the battery pack into your camera.
- 2

Open the DC IN cover and connect the AC power adaptor to the DC IN jack of your camera with the v mark facing up.
- 3

Connect the power cord (mains lead) to the AC power adaptor and then to a wall outlet (wall socket).
The POWER ON/OFF (CHG) lamp (orange) on the right of the LCD screen lights up when charging begins. When the POWER ON/OFF (CHG) lamp goes off, full charge is completed.

After charging the battery pack

Disconnect the AC power adaptor from the DC IN jack on your camera.

Battery remaining indicator

The LCD screen on the camera shows the remaining time for which you can still record or play back images.
This indication may not be entirely accurate depending on the conditions of use and the operating environment.
We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F).

NP-F330 (supplied)/F550 (optional) battery pack

When you record images in an extremely cold location or using the LCD screen, the operating time becomes short. When using the camera in an extremely cold location, place the battery pack in your pocket or other place to keep it warm, then insert the battery pack into the camera just before recording. When using a pocket heater, take care not to let the heater directly contact the battery.

Auto power-off function

If you do not operate the camera for about three minutes during recording, the camera turns off automatically to prevent wearing down the battery pack. To use the camera again, slide the POWER switch down to turn on the camera again.

Note on the POWER ON/OFF (CHG) lamp during charging

The POWER ON/OFF (CHG) lamp may flash:

- When a malfunction occurs in the battery pack.
- The POWER ON/OFF (CHG) lamp does not light up:
- When the battery pack is not installed properly.

Charging time

| Battery pack | Full charge (min.) |
|--------------------|--------------------|
| NP-F330 (supplied) | Approx. 150 |
| NP-F550 | Approx. 210 |

Approximate time to charge a completely discharged battery pack at a temperature of 25°C (77°F).

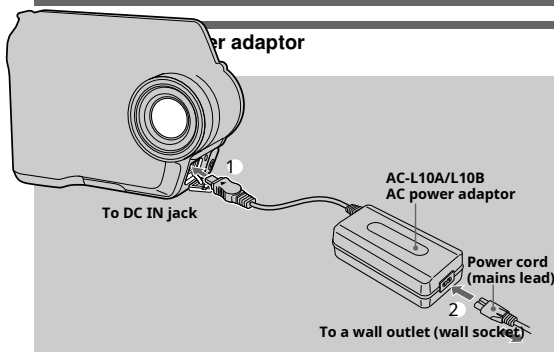
Battery life and number of images that can be recorded/played back

STILL mode recording/playback when using floppy disks

| | NP-F330 (supplied) | | NP-F550 | |
|-----------------------|---------------------|------------------|---------------------|------------------|
| | Battery life (min.) | Number of images | Battery life (min.) | Number of images |
| Continuous recording* | Approx. 70 | Approx. 750 | Approx. 150 | Approx. 1600 |
| Continuous playback** | Approx. 80 | Approx. 2200 | Approx. 170 | Approx. 4800 |

Getting started

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- 1 Open the DC IN cover and connect the AC power adaptor to the DC IN jack of your camera with the ∇ mark facing up.
- 2 Connect the power cord (mains lead) to the AC power adaptor and then to a wall outlet (wall socket).

Using your camera abroad

For details, see page 85.

When using the AC power adaptor

Be sure to use it near a wall outlet (wall socket). If a malfunction occurs, disconnect the plug from the wall outlet (wall socket).

Getting started

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STILL mode recording/playback when using "Memory Stick"s

| | NP-F330 (supplied) | | NP-F550 | |
|-----------------------|---------------------|------------------|---------------------|------------------|
| | Battery life (min.) | Number of images | Battery life (min.) | Number of images |
| Continuous recording* | Approx. 80 | Approx. 1600 | Approx. 170 | Approx. 3400 |
| Continuous playback** | Approx. 100 | Approx. 3000 | Approx. 230 | Approx. 6900 |

Approximate battery life and number of images that can be recorded/played back at a temperature of 25°C (77°F) with a fully charged battery pack, 640x480 image size and in NORMAL recording mode.

* Recording at about 5-second intervals when using a floppy disk, or at about 3-second intervals when using a "Memory Stick"

** Playing back single images continuously at about 2-second intervals

MOVIE mode recording when using floppy disks

| | NP-F330 (supplied) | NP-F550 |
|----------------------|---------------------|---------------------|
| | Battery life (min.) | Battery life (min.) |
| Continuous recording | Approx. 85 | Approx. 180 |

MOVIE mode recording when using "Memory Stick"s

| | NP-F330 (supplied) | NP-F550 |
|----------------------|---------------------|---------------------|
| | Battery life (min.) | Battery life (min.) |
| Continuous recording | Approx. 90 | Approx. 190 |

Approximate time that can be recorded at a temperature of 25°C (77°F) and 160x112 image size with a fully charged battery pack.

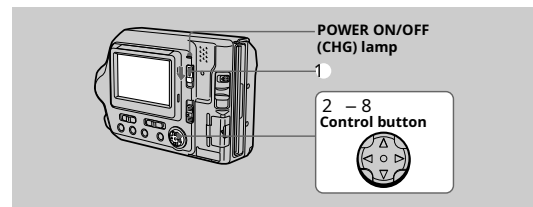
Notes

- The battery life and number of images will be decreased when using at low temperature, using the flash, turning the power on/off frequently, or using the zoom.
- The capacity of the floppy disk or the "Memory Stick" is limited. The above figures are as a guide when you continuously record/play back by replacing the floppy disk or the "Memory Stick."
- If sufficient battery remaining time is indicated but the power runs out soon, fully charge the battery so that the correct battery remaining time appears.
- Do not short the DC plug of the AC power adaptor with a metallic object, as this may cause a malfunction.
- Do not use the DC plug of the AC power adapter in a dirty state. Wipe off any dirt with a dry cotton wool bud. Using the DC plug in a dirty state may prevent correct charging.

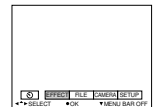
12

Setting the date and time

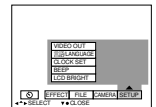
When you first use your camera, set the date and time. If these are not set, the CLOCK SET screen appears whenever you turn on your camera.



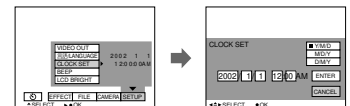
- 1 Press and hold the green button and slide the POWER switch in the direction of the arrow to turn on power.
The POWER ON/OFF (CHG) (green) lamp lights up.
- 2 Press ∇ on the control button.
The menu bar appears on the LCD screen.



- 3 Select [SETUP] with ∇ on the control button, then press the center \bullet .

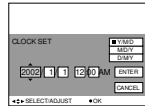


- 4 Select [CLOCK SET] with ∇ on the control button, then press the center \bullet .

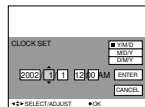


14

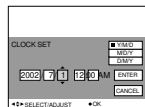
- 5 Select the desired date display format with \vee/\vee on the control button, then press the center \mathbf{z} .
Select from [Y/M/D] (year/month/day), [M/D/Y] (month/day/year), or [D/M/Y] (day/month/year).



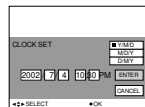
- 6 Select the year, month, day, hour or minute item you want to set with $\mathbf{b/B}$ on the control button.
The item to be set is indicated with \vee/\vee .



- 7 Set the numeric value with \vee/\vee on the control button, then press the center \mathbf{z} to enter it.
After entering the number, \vee/\vee moves to the next item. If you selected [D/M/Y] in step 5 , set the time on a 24-hour cycle.



- 8 Select [ENTER] with \mathbf{B} on the control button, then press the center \mathbf{z} at the desired moment to begin clock movement.
The date and time are entered.

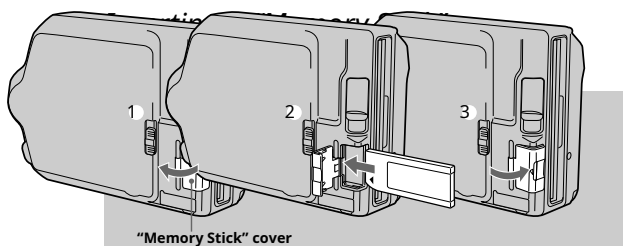


To cancel the date and time setting

Select [CANCEL] with $\vee/\vee/\mathbf{b/B}$ on the control button, then press the center \mathbf{z} .

Getting started

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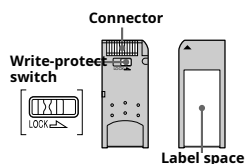
- Open the "Memory Stick" cover.
- Insert the "Memory Stick."
Insert the "Memory Stick" with the B mark facing toward the "Memory Stick" slot as illustrated until it clicks.
- Close the "Memory Stick" cover.

Removing the "Memory Stick"

Open the "Memory Stick" cover, then push the "Memory Stick" once lightly.

Notes

- Insert the "Memory Stick" firmly until it clicks, otherwise a message such as "MEMORY STICK ERROR" will be displayed.
- If the access lamp is lit, data is being read or written. Never remove the "Memory Stick," turn off the power, or change the setting of the MS/FD selector while the access lamp is lit. Otherwise, the image data could be damaged or lost.
- You cannot record or edit images on a "Memory Stick" if the write-protect switch is set to the LOCK position.

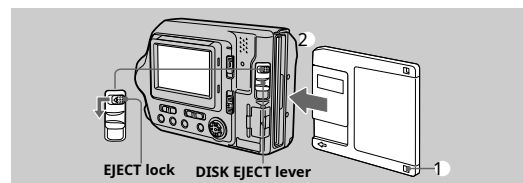


The position and shape of the write-protect switch may differ depending on the types of "Memory Stick" used.

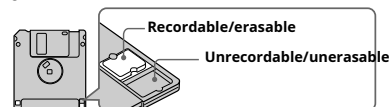
Getting started

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Inserting a floppy disk



- Check that the write protect tab is set to the recordable position for recording.



- Insert the floppy disk until it clicks.

Usable floppy disks

- Size: 3.5-inch
- Type: 2HD (1.44 MB)
- Format: MS-DOS format (512 bytes · 18 sectors)

Notes

- Do not insert the media other than the floppy disks described above.
- You cannot use the optional MSAC-FD2M/FD2MA Floppy Disk Adaptor for Memory Stick.
- If the access lamp is lit, data is being read or written. Never remove the floppy disk, turn off the power, or change the setting of the MS/FD selector while the access lamp is lit. Otherwise, the image data could be damaged or lost.

Removing the floppy disk

While sliding the EJECT lock to the left, slide down the DISK EJECT lever.

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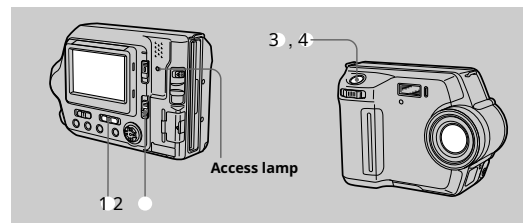
Basic operations

B Recording

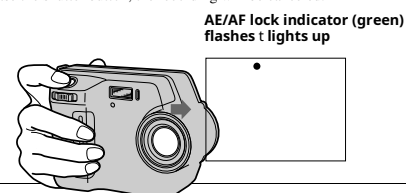
Recording still images

Still images are recorded in JPEG format.

Slide the POWER switch down to turn on the power and insert a floppy disk or a "Memory Stick" in your camera.



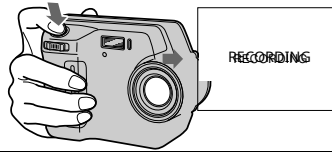
- Set the PLAY/STILL/MOVIE selector to STILL.
- Select the recording media using the MS/FD selector.
MS: When recording on the "Memory Stick."
FD: When recording on the floppy disk.
- Press and hold the shutter button halfway down.
The image has not been recorded yet at this time. The camera automatically adjusts the exposure and focus in accordance with the subject and recording conditions. When the camera finishes the automatic adjustments, the AE/AF lock indicator \mathbf{z} stops flashing, then lights up and is followed by beeps, and the camera is ready for recording.
If you release the shutter button, the recording will be canceled.



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4 Press the shutter button fully down.

The shutter clicks. "RECORDING" appears on the LCD screen, and the image will be recorded on the floppy disk or the "Memory Stick." When "RECORDING" disappears from the LCD screen, you can start the next recording.



B/Recording

For the number of images you can record on a floppy disk or a "Memory Stick"

See page 58.

Notes

- When recording bright subjects, the color of the LCD screen may change after the AE/AF is locked. However, this will not affect the recorded image.
- While the image is being recorded on a floppy disk or a "Memory Stick," the access lamp lights. When this lamp is lit, do not shake or strike the camera. Also, do not turn the power off, not change the position of the MS/FD selector, or not remove the battery pack/floppy disk/"Memory Stick." Otherwise, an image data breakdown may occur and the floppy disk or the "Memory Stick" may become unusable.
- When you press the shutter button fully down at once, the camera starts recording after the automatic adjustment is complete. However, the recording cannot be carried out if the flash is required for the recording and the lamp (page 8) is flashing.

Checking the last recorded image (Quick Review)

You can check the last recorded image by clearing the menu bar from the screen (page 49) and pressing **b** on the control button.

To return to the normal recording mode

Press the shutter button lightly, or select [RETURN] with **b/B** on the control button and then press the center **Z**.

To delete the image

- 1 Select [DELETE] in the Quick Review screen using **b/B** on the control button and press the center **Z**.
- 2 Select [OK] using **v/V** on the control button and press the center **Z**.

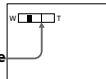
19

Digital zoom function

This camera has a digital zoom function.

Digital zoom enlarges the image by digital processing, and it starts to function when the zoom exceeds 3x.

The T-side of the bar shows the digital zooming zone.



Using digital zoom

- The maximum zoom magnification is 6x.
- Digital zooming deteriorates the picture quality. When digital zoom is not necessary, set [DIGITAL ZOOM] to [OFF] in the menu settings (page 54).

Note

Digital zoom does not work for moving images.

The indicators on the LCD screen during recording

Press **DISPLAY** to turn on/off the indicators on the LCD screen. See page 97 for a detailed description of the indicators.

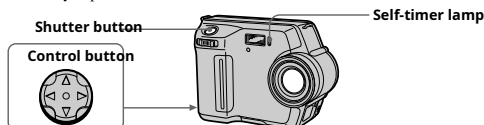


Notes

- You cannot turn off the (self-timer) indicator and some of the indicators used in advanced operations.
- The indicators on the LCD screen are not recorded.

Using the self-timer

When you use the self-timer function, the subject is recorded approximately 10 seconds after you press the shutter button.



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Adjusting the brightness of the LCD screen

Adjust the brightness with the [LCD BRIGHT] item in the menu settings (page 56). This adjustment does not affect the brightness of the images recorded on the floppy disk or the "Memory Stick."

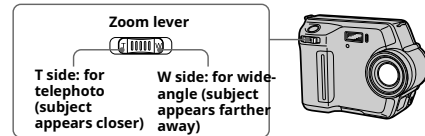


LCD BACKLIGHT switch

To turn off the LCD backlight

Set the LCD BACKLIGHT switch to OFF to save the battery.

Using the zoom feature



If you cannot get a sharp focus on a close subject

Slide the zoom lever to the W side and move closer to the subject until the focus is sharp (page 64).

Minimum focal distance to the subject

W side: About 25 cm (9 7/8 inches)

T side: About 80 cm (31 1/2 inches)

To record even closer subjects, see page 64.

20

Select on the LCD screen using **b/B/v/V** on the control button and press the center **Z**.

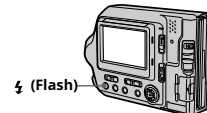
The (self-timer) indicator appears on the LCD screen, and the subject is recorded approximately 10 seconds after you press the shutter button. The self-timer lamp flashes until the subject is recorded.

To cancel the self-timer

To cancel the self-timer, press **v** on the control button to display the menu bar and select and press the center **Z** on the control button to clear on the LCD screen.

Recording images with the flash

The initial setting is AUTO (no indication). In this mode, the flash is automatically activated when the surroundings are dark. To change the flash mode to other than AUTO, press (Flash) several times until the desired flash mode indicator appears on the LCD screen.



Each time you press the button, the indicator changes as follows.

(No indication) (No indication)

Auto red-eye reduction : The flash strobes before recording to reduce the red-eye phenomenon.

Forced flash : The flash strobes regardless of the surrounding brightness.

No flash : The flash does not strobe.

You can change the amount of the flash light with [FLASH LEVEL] in the menu settings (page 54).

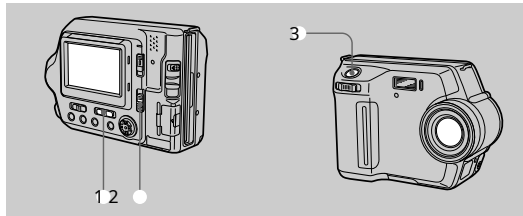
Notes

- The recommended shooting distance of the built-in flash is 0.5 to 2.0 m (1 2/3 to 6 2/3 feet) when [ISO] in the menu is [AUTO].
- Attaching a conversion lens (optional) may block the light from the flash and the shadow of the lens may be recorded.
- Auto red-eye reduction may not produce the desired red-eye reduction effects depending on individual differences, the distance to the subject, if the subject does not see the pre-strobe, or other conditions.
- The flash effect is not obtained easily when you use forced flash in a bright location.

22

Recording moving images

Moving images are recorded in MPEG format. Your camera does not record sound. Slide the POWER switch down to turn on the power and insert a floppy disk or a "Memory Stick" in your camera.



- 1 **Set the PLAY/STILL/MOVIE selector to MOVIE.**
The last recorded image (still or moving) appears on the LCD screen.
- 2 **Select the recording media using the MS/FD selector.**
MS: When recording on the "Memory Stick."
FD: When recording on the floppy disk.
- 3 **Press the shutter button fully down.**
"REC" appears on the LCD screen, and the moving image is recorded on the floppy disk or the "Memory Stick."
If you press the shutter button momentarily
The image is recorded for 5 seconds. The recording time can be set to 10 or 15 seconds with [REC TIME SET] in the menu settings (page 53).
If you hold the shutter button down
The image is recorded while the shutter button is held down for up to 60 seconds. However, when [IMAGE SIZE] in the menu settings is set to [320x240], the maximum recording time is 15 seconds (page 57).

Adjusting the brightness of the LCD screen, zooming or using the self-timer

See pages 20 to 22.

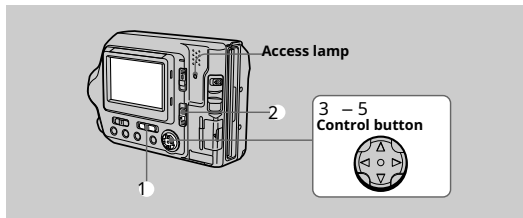
LCD screen indicators during recording

Press DISPLAY to turn on/off the indicators on the LCD screen. These indicators are not recorded. See page 97 for a detailed description of the indicators.

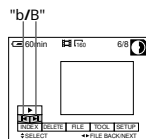
23

Playing back moving images

Slide the POWER switch down to turn on the power and insert a floppy disk or a "Memory Stick" in your camera.



- 1 **Set the PLAY/STILL/MOVIE selector to PLAY.**
The last recorded image (still or moving) appears on the LCD screen.
- 2 **Select the playback media using the MS/FD selector.**
MS: When playing back images in the "Memory Stick."
FD: When playing back images in the floppy disk.
- 3 **Press v on the control button to display the menu bar on the LCD screen.**
- 4 **Select the desired moving image with the control button.**
Moving images are displayed one size smaller than still images.
Press v / N / b / B on the control button to select "b/B" on the LCD screen, then press b/B.
"b": To display the preceding image.
"B": To display the next image.



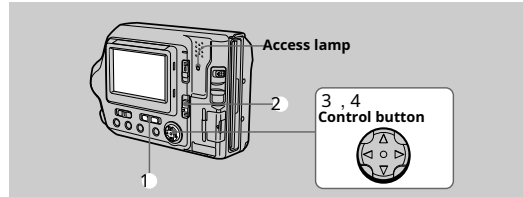
B Playback

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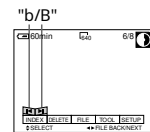
B Playback

Playing back still images

Slide the POWER switch down to turn on the power and insert a floppy disk or a "Memory Stick" in your camera.



- 1 **Set the PLAY/STILL/MOVIE selector to PLAY.**
The last recorded image (still or moving) appears on the LCD screen.
- 2 **Select the playback media using the MS/FD selector.**
MS: When playing back images in the "Memory Stick."
FD: When playing back images in the floppy disk.
- 3 **Press v on the control button to display the menu bar on the LCD screen.**
- 4 **Select the desired still image with the control button.**
Press v / N / b / B on the control button to select "b/B" on the LCD screen, then press b/B.
"b": To display the preceding image.
"B": To display the next image.



When the menu bar is not displayed

You can directly select and play back the image with b/B on the control button.

Notes

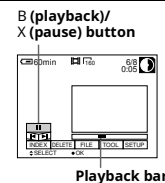
- You might not be able to correctly play back images recorded with this camera on other equipment.
- You may not be able to play back images whose image sizes are larger than the maximum image size that can be used with this camera for recording.

LCD screen indicators during still image playback

Press DISPLAY to turn on/off the indicators on the LCD screen. See page 98 for a detailed description of the indicators.

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- 5 **Select the B (playback) button on the LCD screen with v / N / b / B on the control button, then press the center Z .**
The moving image is played back.
During playback, B (playback) changes to X (pause).



To pause playback

Select X (pause) on the LCD screen with v / N / b / B on the control button, then press the center Z .

When the menu bar is not displayed

You can directly select the image with b/B on the control button, and play back the image by pressing the center Z . When you press the center Z during playback, playback is paused.

LCD screen indicators during moving image playback

Press DISPLAY to turn on/off the indicators on the LCD screen. See page 98 for a detailed description of the indicators.

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Viewing images using a computer

You can view or edit image data recorded with your camera using software installed in your computer. You can also attach the image data to e-mail.

Viewing images using a floppy disk drive

Example: For Windows Me users

- 1 **Turn on your computer and insert a floppy disk in the floppy disk drive of your computer.**
- 2 **Open "My Computer" and double-click "3 1/2 Floppy (A:)."**
- 3 **Double-click a file to be viewed.**
See "Image file storage destinations and image file names" (page 38) for details.
It is recommended that you copy a moving image file to the hard disk of your computer before viewing it. If you view the file directly from a floppy disk, the image may break off.

Viewing images on a computer using the USB cable

This section describes the method for viewing images on a computer using the supplied USB cable.

The **USB cable** is used to connect the camera to a computer so that operations can be performed on image files recorded in a floppy disk or a "Memory Stick" from the computer.

In order to use the **USB cable**, a USB driver must be installed in the computer beforehand.

Be sure to also refer to the operation manuals for your computer and the application software.

Viewing images on Windows: page 28

Viewing images on Macintosh: page 34

Notes on using your computer: page 37

Notes

- Data recorded with your camera is stored in the following formats. Make sure that applications that support these file formats are installed on your computer.
 - Still images (other than TEXT mode, uncompressed mode, and Clip Motion): JPEG format
 - Moving images: MPEG format
 - Uncompressed mode still images: TIFF format
 - TEXT mode/Clip Motion: GIF format
- Depending on your application software, the file size may increase when you open a still image file.

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General procedure for viewing images

Step 1 Installing the USB driver to the computer (page 29)

Perform this step only when you view images on your computer for the first time.

Step 2 Connecting your camera to your computer using the USB cable (page 30)

Step 3 Viewing images on Windows (page 32)

For Windows XP users

You do not have to install a USB driver. Windows XP recognizes the camera as a drive as soon as it is connected to the computer using the USB cable. Begin the procedure from **Step 2**.

The operation below is explained using Windows Me. The window screen and operation method may be different depending on the type of OS.

Step 1 Installing the USB driver to the computer

Before connecting your camera to your computer, install the USB driver to the computer. The USB driver is included with the application software in the CD-ROM which is supplied with your camera.

For Windows 98, Windows 98SE, Windows 2000, and Windows Me users

Do not connect your camera to your computer yet. Be sure to complete installation of the USB driver before connecting your camera to the computer. If you connect the USB cable first, you will be unable to install the USB driver properly.

See "If the Removable Disk does not appear" (page 33) for corrective measures if the USB cable was connected before installing the driver and the driver software could not be installed correctly.

BPlayback

BPlayback

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- When you copy an image to the camera from your computer, which was modified with retouching software and was converted to another file format, the "FILE ERROR" message may appear and you may be unable to open the image.
- Depending on your application software, only the first frame of the Clip Motion file may be played back.

Communications with your computer (for Windows only)

Communications between your camera and your computer may not recover after recovering from Suspend or Sleep.

- Microsoft, Windows and Windows Media are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Macintosh, Mac OS and QuickTime are either registered trademarks or trademarks of Apple Computer, Inc.
- All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies. Furthermore, "TM" and "®" are not mentioned in each case in this manual.
- In this manual, the Windows 2000 Professional is referred to as "Windows 2000", and Windows Millennium Edition is referred to as "Windows Me", and Windows XP Home Edition and Windows XP Professional are referred to as "Windows XP."

Viewing images on Windows

Recommended computer environment

OS: Microsoft Windows 98, Windows 98SE, Windows 2000 Professional, Windows Millennium Edition, Windows XP Home Edition, Windows XP Professional

The above OS must be installed at the factory.

Operation is not assured in an environment upgraded to the operating systems described above.

CPU: MMX Pentium 200 MHz or faster

The USB connector must be provided as standard.

Windows Media Player (recommended) must be installed to play back moving pictures.

Notes

- If you connect two or more devices that use USB to a single computer or use a hub, operation is not guaranteed.
- Some USB devices may not operate if they are connected to the computer at the same time as your camera.
- Operations are not guaranteed for all the recommended computer environments mentioned above.

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Before operation

If you are using Windows 2000, log in as an administrator and then install the USB driver.

1 Turn on your computer and allow Windows to load.

Close all applications you are running on your computer.

2 Insert the supplied CD-ROM in the CD-ROM drive of your computer.

The title screen appears after a moment.



If the title screen does not appear

- 1 Double-click "My Computer" on the Desktop.
 - 2 Double-click the CD-ROM ("ImageMixer (E:)*").
- *The drive symbol ((E:), etc.) may differ depending on your computer.

3 Click "USB Driver" on the screen.

The "Welcome to the InstallShield Wizard for Sony USB Driver" window appears.

4 Follow the on-screen messages to install the USB driver.

5 Eject the CD-ROM from the computer.

6 Select "Yes, I want to restart my computer now" and click "Finish."

Your computer restarts and you can connect your camera to your computer.

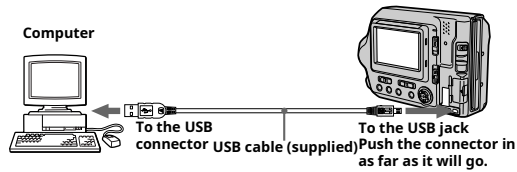
Step 2 Connecting your camera to your computer using the USB cable

You can connect your camera to your computer after Windows is loaded.

- 1 **Insert a floppy disk or a "Memory Stick" in your computer and set the MS/FD selector in accordance with the media you have inserted.**

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- 2 Connect the AC power adaptor to your camera and turn on your camera.
- 3 Use the supplied dedicated USB cable to connect the USB jack (mini-B) on your camera to the USB connector on your computer.



"USB MODE" appears on the LCD screen of your camera. When you connect the camera for the first time, the operation automatically starts to allow your computer to recognize the camera. Be sure to wait until the operation finishes. See "If the Copy Wizard appears" (page 33) if you are using Windows XP.

Cautions

- If you connect your camera to a computer with two or more USB jacks, do not connect any other USB device excepting a keyboard and/or mouse.
- If you have a desktop computer, use the USB jack on the rear panel of the computer.

When you disconnect the USB cable from your computer, when you remove a floppy disk or a "Memory Stick" from the camera being connected to the computer using the USB cable, and when you switch the MS/FD selector

For Windows 2000, Windows Me, and Windows XP users

- 1 Double-click the "Remove hardware" icon displayed at the lower right of the desktop screen.
- 2 Click "Sony DSC" and click "Stop."
- 3 Confirm the drive to be removed and click "OK."
- 4 Click "OK."
- 5 Perform operations such as disconnecting the USB cable.

For Windows 98 and Windows 98SE users
Perform only step 5 above.

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If the Copy Wizard appears (for Windows XP users)

Use the following procedure to copy an image data from your camera to your computer.

- 1 Click "Copy pictures to a folder on my computer using Microsoft Scanner and Camera Wizard," and then click "OK."
- 2 Follow the instructions displayed on the screen to copy an image. Select "My Documents" (example) as the copy destination. To copy another image, click "Finish", disconnect the USB cable, and connect it again. Then, repeat the procedure in the Copy Wizard screen.

If the Removable Disk does not appear

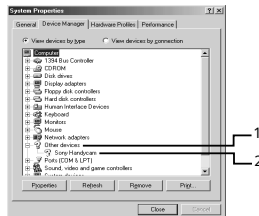
Delete a driver registered unintentionally while your camera is connected to your computer. See "Step 2 Connecting your camera to your computer using the USB cable (page 30)" for the connecting method. Perform all steps below to install the USB driver properly.

- 1 Open "Device Manager" on your computer.

For Windows 2000 users:
Select "My Computer" t "Control Panel" t "System" open "Hardware" tab, and then click "Device Manager."

For Windows 98, Windows 98SE, Windows Me users:
Select "My Computer" t "Control Panel" t "System" and click "Device Manager."

- 2 Check whether a USB driver is already installed.



- 1 Click "Other Devices."
- 2 Check for "Sony DSC" or "Sony Handycam" with a question mark.

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Step 3 Viewing images on Windows

You can view the images recorded in your camera while the camera is connected to your computer.

- 1 Open "My Computer" on Windows and double-click the newly recognized drive "Removable Disk" (E:).
The folder in a floppy disk or a "Memory Stick" is displayed.
If "Removable Disk" is not displayed, see "If the Removable Disk does not appear" (page 33).
*The drive symbol (E:), etc.) may differ depending on your computer.
- 2 Select an image file to be viewed from the folder and double-click the file.
See "Image file storage destinations and image file names" (page 38) for further information.

Viewing an image of a floppy disk

Desired file type Double-click in this order

| | | | |
|--------------|-----------------|---|------------|
| E-mail image | "E-mail" folder | t | Image file |
| Other files | Image file | | |

Viewing an image of a "Memory Stick"

| Desired file type | Double-click in this order | | | |
|---|----------------------------|---|-------------------|---------------|
| Still image | "Dcim" folder | t | "100msdcf" folder | t Image file |
| Moving image* | "Mssony" folder | t | "Mom10001" folder | t Image file* |
| Clip Motion image | "Dcim" folder | t | "100msdcf" folder | t Image file |
| E-mail image TIFF image (uncompressed) | "Mssony" folder | t | "Imcif100" folder | t Image file |

* Copying a file to the hard disk of your computer before viewing it is recommended. If you view the file directly from a floppy disk or a "Memory Stick," the image may break off.

To copy the image data to your computer

Open a folder that contains the image data to be copied, and drag and drop the image data to the "My Documents" (example) folder.

Caution

If you copy an image with the same filename to the same folder in your computer, a confirmation message for overwriting the original image data will appear. If you want to delete the original image and copy an image you want to drag and drop, click "Yes." If you want to keep the original image, click "No" and change the filename of the image you want to drag and drop.

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- 3 If there is a device indicated with a question mark, delete it.

- 1 Click "Sony DSC" or "Sony Handycam".
- 2 Click "Remove." The "Confirm Device Removal" screen appears.
- 3 Click the "OK" button.

- 4 Turn off your camera and disconnect the dedicated USB cable from the camera and computer.

- 5 Install the USB driver provided on the supplied CD-ROM.

See "Step 1 Installing the USB driver to the computer (page 29)."

Viewing images on Macintosh

Recommended Computer environment

OS: Mac OS 8.5.1/8.6/9.0/9.1/9.2, Mac OS X(v10.0/v10.1)

The above OS must be installed at the factory.

However, note that the upgrade to Mac OS 9.0/9.1 should be used for the following models.

— iMac with the Mac OS 8.6 factory pre-installed and a slot loading type CD-ROM drive

— iBook or Power Mac G4 with the Mac OS 8.6 factory pre-installed
Mac OS X(v10.0/v10.1) users can use a USB connection only when a "Memory Stick" is used.

The USB connector must be provided as standard.

QuickTime 3.0 or newer must be installed to play back moving pictures.

Notes

- If you connect two or more devices that use USB to a single computer or use a hub, operation is not guaranteed.
- Some USB devices may not operate if they are connected to the computer at the same time as your camera.
- Operations are not guaranteed for all the recommended computer environments mentioned above.

General procedure for viewing images

- Step 1 Installing the USB driver to the computer (page 35)
Perform this step only when you view the images on your computer for the first time.
- Step 2 Connecting your camera to your computer using the USB cable (page 36)
- Step 3 Viewing images on Macintosh (page 36)

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For Mac OS 9.1/9.2 Mac OS X(v10.0/v10.1) users

You do not have to install a USB driver. Macintosh recognizes the camera as a drive as soon as it is connected to the Macintosh using the USB cable. Begin the procedure from **Step 2**.

Step 1 Installing the USB driver to the computer

Before connecting your camera to your computer, install the USB driver to the computer. The USB driver is included with the application software in the CD-ROM which is supplied with your camera.

- 1 **Turn on your computer and allow the Mac OS to load.**
- 2 **Insert the supplied CD-ROM in the CD-ROM drive of your computer.**
The CD-ROM window (Pixela ImageMixer) appears.
- 3 **Double-click the "Setup Menu" icon in the CD-ROM window.**
The "PIXELA ImageMixer for Sony" appears.



- 4 **Click "USB Driver" button (folder button).**
The folder containing the six Sony USB driver related files opens.
- 5 **Select the following two files and drag and drop them to the system folder. When the message is displayed, click "OK."**
 - Sony USB Driver
 - Sony USB Shim
- 6 **Restart your computer.**

BPlayback

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Viewing an image of a "Memory Stick"

| Desired file type | Double-click in this order | | |
|--|----------------------------|---|---------------------------------|
| Still image | "Dcim" folder | t | "100msdcf" folder t Image file |
| Moving image* | "Mssony" folder | t | "Moml0001" folder t Image file* |
| Clip Motion image | "Dcim" folder | t | "100msdcf" folder t Image file |
| E-mail image TIFF image (uncompressed) | "Mssony" folder | t | "Imcif100" folder t Image file |

* Copying a file to the hard disk of your computer before viewing it is recommended. If you view the file directly from a floppy disk or a "Memory Stick," the image may break off.

To copy image data to your computer

Open the folder that contains an image data you want to copy, and drag and drop the image data to the hard disk icon.

The image file is copied to the hard disk.

Notes on using your computer**Floppy disk and "Memory Stick"**

- Be sure to format a floppy disk and a "Memory Stick" using your camera (page 81). You cannot format a floppy disk or a "Memory Stick" from a computer connected using the USB cable.
- Use the DOS/V format 2HD type floppy disk. A computer cannot correctly recognize a floppy disk other than this type.
- Do not compress the data on the "Memory Stick." Compressed files cannot be played back on your camera.

BPlayback

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Step 2 Connecting your camera to your computer using the USB cable

See page 30 for the procedure to connect your camera to your computer using the USB cable.

When you disconnect the USB cable from your computer, when you remove a floppy disk or a "Memory Stick" from the camera being connected to the computer using the USB cable, and when you switch the MS/FD selector

Drag and drop the floppy disk or the "Memory Stick" icon into the recycle bin and then perform operations such as disconnecting the USB cable.

For Mac OS X(v10.0) users

Turn off your computer first and then perform operations such as disconnecting the USB cable.

Step 3 Viewing images on Macintosh

You can view the images recorded in your camera while the camera is connected to your computer.

For Mac OS X(v10.0/v10.1) users

You can use only a "Memory Stick" with a computer running Mac OS X(v10.0/v10.1). Even if you insert a floppy disk, Mac OS X(v10.0/v10.1) cannot recognize it. To use data saved on a floppy disk, copy it to a "Memory Stick" first (page 77).

- 1 **Double-click the newly recognized icon on the desktop.**
The folders in a floppy disk or a "Memory Stick" are displayed.
- 2 **Select and double-click the desired image file from the folder.**
See "Image file storage destinations and image file names" (page 38) for further information.

Viewing an image of a floppy disk

| Desired file type | Double-click in this order | |
|-------------------|----------------------------|--------------|
| E-mail image | "E-mail" folder | t Image file |
| Other files | Image file | |

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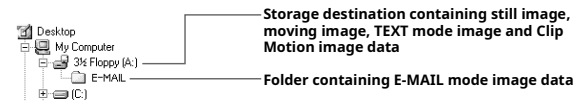
Image file storage destinations and image file names

Image files recorded with your camera are grouped in folders by recording mode. Images in a floppy disk and ones in a "Memory Stick" have different file names. The meanings of the file names are as follows.

When using floppy disks

SSS stands for any number within the range from 001 to 999.
f stands for one of the following characters below.

S: Still image file recorded at 640x480 size
F: Still image file of more than 640x480 size
V: Moving image file recorded at 160x112 size
W: Moving image file recorded at 320x240 size
T: Still image file recorded in TEXT mode
C: Clip Motion file recorded in NORMAL mode
M: Clip Motion file recorded in MOBILE mode

For Windows Me users (The drive recognizing the floppy disk is [A:].)

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| Location | File | Meaning |
|-------------------|---------------|--|
| 3 1/2 Floppy [A:] | MVC-sssf .JPG | • Still image file recorded normally • Still image file recorded in E-MAIL mode (page 61) |
| | MVC-sssf .411 | • INDEX display file This file can only be played back on your camera. |
| | MVC-sssf .MPG | • Moving image file |
| | MVC-sssf .GIF | • Still image file recorded in — TEXT mode (page 62) — Clip Motion (page 59) |
| | MVC-sssf .THM | • Index image file recorded in — TEXT mode (page 62) — Clip Motion (page 59) |
| E-MAIL folder | MVC-sss E.JPG | • Small-size image file recorded in E-MAIL mode (page 61) |

- The numerical portions of the following files are the same.
 - An image file recorded in E-MAIL mode and its corresponding small-size image file
 - An image file recorded in TEXT mode and its corresponding index image file
 - An image file recorded with Clip Motion and its corresponding index image file
- INDEX display files recorded in the TEXT mode or Clip Motion mode are played back only on this camera.

Back



| Folder | File | Meaning |
|----------|---------------|---|
| Incif100 | DSC0ssss .JPG | • Small-size image file recorded in E-MAIL mode (page 61) |
| | DSC0ssss .TIF | • Uncompressed image file recorded in TIFF mode (page 63) |
| MomI0001 | MOV0ssss .MPG | • Moving image file recorded normally |

- The numerical portions of the following files are the same.
- A small-size image file recorded in E-MAIL mode and its corresponding image file
 - An uncompressed image file recorded in TIFF mode and its corresponding image file
 - An image file recorded in TEXT mode and its corresponding index image file
 - An image file recorded with Clip Motion and its corresponding index image file

Tips

The digital still camera saves recorded images as digital data. The format of the saved data is called as the file format. The formats that can be used with this camera are as follows:

JPEG format

Most digital still cameras, operating systems of computers, and browser software adopt this format. This format is able to compress files without appreciable deterioration. However, if the image is compressed and saved on repeated occasions, the image will deteriorate. This camera records still images using the JPEG format for normal recording.

GIF format

Using this format, the image will not deteriorate even if the image is compressed and saved on repeated occasions. This format limits the number of colors used to 256 colors. This camera records still images using the GIF format in Clip Motion (page 59) or TEXT mode (page 62).

TIFF format

Stores shooting images without compression, so the image does not deteriorate. Most of operating systems and applications correspond to this format. This camera records still images using the TIFF format for the TIFF mode (page 63).

MPEG format

This format is very typical for moving images. This camera records moving images in the MPEG format during the recording.

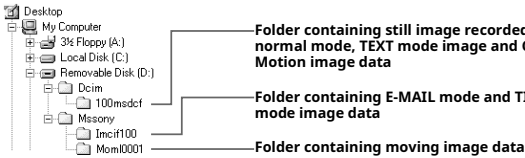
Back



When using “Memory Stick”s

SSSS stands for any number within the range from 0001 to 9999.

For Windows Me users (The drive recognizing the camera is [D:])



| Folder | File | Meaning |
|----------|---------------|--|
| 100msdcf | DSC0ssss .JPG | • Still image file recorded normally • Still image file recorded in — E-MAIL mode (page 61) — TIFF mode (page 63) |
| | CLP0ssss .GIF | • Clip Motion file recorded in NORMAL mode (page 59) |
| | CLP0ssss .THM | • Index image file of Clip Motion file recorded in NORMAL mode |
| | MBL0ssss .GIF | • Clip Motion file recorded in MOBILE mode (page 59) |
| | MBL0ssss .THM | • Index image file of Clip Motion file recorded in MOBILE mode |
| | TXT0ssss .GIF | • Still image file recorded in TEXT mode (page 62) |
| | TXT0ssss .THM | • Index image file of still image file recorded in TEXT mode |
| | | |



Viewing images using “ImageMixer”

Installing “PIXELA ImageMixer Ver.1.0 for Sony”

You can easily view a still image and/or moving image recorded by your camera using the “PIXELA ImageMixer Ver.1.0 for Sony” provided on the CD-ROM supplied with your camera. The system requirements of your computer are indicated in the operation manual supplied with the CD-ROM.

Before operation

If you are using Windows 2000 and Windows XP, log in as an administrator and then install the USB driver.

- 1 Turn on your computer.**
Close all applications you are running on your computer.
- 2 Insert the supplied CD-ROM in the CD-ROM drive of your computer.**
The title screen appears after a moment.
If the title screen does not appear
 - 1 Double-click “My Computer” on the Desktop.
 - 2 Double-click the CD-ROM (“ImageMixer (E:)”).* The drive symbol ((E:), etc.) may differ depending on your computer.
- 3 Select “PIXELA ImageMixer Ver.1.0 for Sony” in the title screen.**
For Windows users
 - 1 Click “PIXELA ImageMixer” and install the software in accordance with the instructions displayed on the screen.**
After confirming the information in the “Readme.txt” screen displayed at the end of installing process, close this screen and click “Finish.”
If you are using Windows XP, skip steps 2 to 4 below. Go to step 4 .
 - 2 Click “DirectX” in the title screen.**
The “Microsoft DirectX8.0 Setup” screen appears.
 - 3 Click “Yes.”**
The “DirectX(R) Setup” screen appears.
 - 4 Click “Install.”**
The installation starts. When the installation finishes, click “OK” and restart your computer.

4 Remove the CD-ROM from the computer.

To copy image data to your computer using “ImageMixer”

Close “ImageMixer” and restart it to retry.

4 Connect your camera to your computer using the USB cable.
 “USB MODE” appears on the LCD screen of your camera.

BE Playback

PIXELA
ImageMixer

Four circular thumbnails showing different images: a landscape, a person, a group of people, and a close-up of a person.

PIXELA
http://www.pixela.co.jp

Album list window

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General Settings/Preferences

Basic Lightbox Settings

- ☒ Lightbox as HTML5
- Default position of the first slide:
- Number of slides shown:
- Slide navigation:
 - Left:
 - Right:
 - Bottom:

Slide 12 Setting

- Slide lightbox on/off:
- Pause for next slide (seconds):

Presentation of Lightbox/Embedded Video

- Presentation of Lightbox/Embedded Video:
- Presentation of Lightbox/Embedded Video:

HTML Lightbox Settings

- Show lightbox on/off:

BBP playback

The “Print Setup” screen appears. Set the paper size and printing direction and click “OK.”

5 Click the print button  at the lower right of the screen.

The "Print" screen appears. Click "OK."
The image is printed.


If the image is not printed

Confirm whether the printer setting is correct.
See the operating instructions supplied with your printer for further information.

Viewing the on-line help of "PIXELA ImageMixer Ver.1.0 for Sony"

You can find detailed information about procedures and functions of "PIXELA ImageMixer Ver.1.0 for Sony."


For Windows users

- 1 Click the Help button  at the upper right of the screen.
The "ImageMixer Help" screen appears.
- 2 You can access the information you want from the table of contents or click a link displayed in blue characters (site address).

For Macintosh users

Use your web browser to open the manual.html file in the folder in which ImageMixer Ver.1.0 for Sony is installed.

To close the on-line help

Click the button  for closing the window of "PIXELA ImageMixer Ver.1.0 for Sony"

If you have any questions about "PIXELA ImageMixer Ver.1.0 for Sony"

ImageMixer Ver.1.0 for Sony is a trademark of PIXELA corporation.
Refer to the information web site at: "<http://www.imagemixer.com>".

Before performing advanced operations

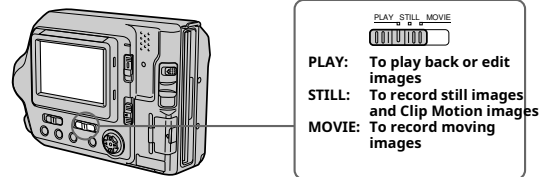
Advanced operations

Before performing advanced operations

This section describes the basic control methods that are frequently used for "Advanced operations."

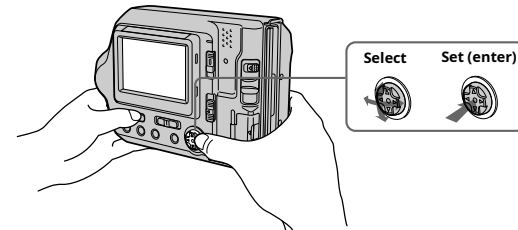
How to use the PLAY/STILL/MOVIE selector

The PLAY/STILL/MOVIE selector selects whether you can use your camera to record or play back and edit images. Set the selector as follows before starting to operate your camera.



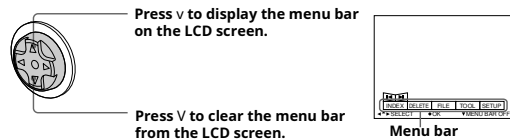
How to use the control button

The control button is used to select the buttons, images and menus displayed on the LCD screen of your camera and modify the settings. The operation methods that are frequently used for "Advanced operations" are described below.



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Turning on/off the operation buttons (menu bar) on the LCD screen



Note

You cannot clear the menu bar on the INDEX screen (page 70).

Selecting items or images on the LCD screen

- 1 Press **v**/**N**/**B** on the control button to select the item you want to set or the image you want to display.
The color of the selected item or the frame of the selected image changes from blue to yellow.
- 2 Press the center **z** on the control button to enter the item.
Repeat steps 1 and 2 to execute each function.

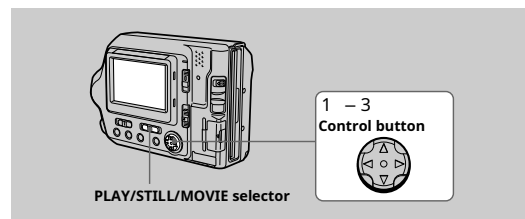
The "Advanced operations" section of this manual refers to selecting and entering items by the above procedure as "Select [item name]."

Before performing advanced operations

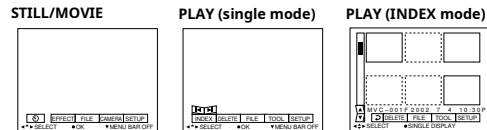
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How to change the menu settings

Some of the advanced operations for your camera are executed by selecting menu items displayed on the LCD screen with the control button.



- 1 Press **v** on the control button to display the menu bar.
The menu bar appears as follows according to the position of the PLAY/STILL/MOVIE selector.



- 2 Select the desired item with **v**/**N**/**B** on the control button, then press the center **z**.
The color of the selected item changes from blue to yellow, and when you press the center **z**, the settings that can be set for its item are displayed.

Note

The displayed items are changed according to the position of the MS/FD selector.

- 3 Select the desired setting with **v**/**N**/**B** on the control button, then press the center **z**.

To cancel the setup

Press **V** on the control button repeatedly until the LCD screen returns to the menu bar display in step 1. To clear the menu bar, press **V** again.

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Menu settings

Menu items that can be modified differ depending on the positions of the PLAY/STILL/MOVIE selector or the MS/FD selector. The LCD screen shows only the items you can operate at the moment. Initial settings are indicated with X.

⏻ (self-timer)

Records with the self-timer (page 21).

EFFECT

| Item | Setting | Description | PLAY/STILL/MOVIE selector |
|-----------|--|--|---------------------------|
| P. EFFECT | SOLARIZE B&W SEPIA NEG.ART X OFF | Sets the image special effects (page 69). | STILL MOVIE |
| DATE/TIME | DAY & TIME DATE X OFF | Sets whether to insert the date and time into the image (page 69). | STILL |

FILE

| Item-1 | Item-2 | Setting | Description | PLAY/STILL/MOVIE selector |
|--|-----------|---------|---|---------------------------|
| DISK TOOL (When the MS/FD selector is set to FD.) | FORMAT | OK | Formats a floppy disk (page 81). Once you format a floppy disk, all of the data, including protected images are deleted. Be sure to check for images before you format a floppy disk. | PLAY STILL MOVIE |
| | | CANCEL | Cancels formatting of a floppy disk. | |
| | DISK COPY | OK | Copies all data stored in a floppy disk to another disk (page 79). | |
| | | CANCEL | Cancels the disk copy. | |
| | CANCEL | | Goes back to the [DISK TOOL] item. | |

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
| Item | Setting | Description | PLAY/STILL/MOVIE selector |
|---|---|--|---------------------------|
| IMAGE SIZE (When the MS/FD selector is set to MS.) | MVC-FD100 X 1280 (FINE) 1280(3:2) F 1024 (FINE) 640 (FINE) MVC-FD200 X 1600 (FINE) 1600 (3:2) F 1024 (FINE) 640 (FINE) | Selects the image size when recording still images. | STILL |
| IMAGE SIZE | 320x240 X 160x112 | Selects the MPEG image size when recording moving images. | MOVIE |
| REC MODE | TIFF TEXT E-MAIL X NORMAL | Records a TIFF (uncompressed) file in addition to the JPEG file when the MS/FD selector is set to MS. Records a GIF file in black-and-white. Records a small-size (320x240) JPEG file in addition to the selected image size. Records an image using the normal recording mode. | STILL |
| REC TIME SET | 15 sec 10 sec X 5 sec | Selects the recording time for moving images. | MOVIE |
| SLIDE SHOW (Only in PLAY (single) mode) | INTERVAL REPEAT START CANCEL | Sets the slide show interval. X 3 sec/5 sec/10 sec/30 sec/1 min A slide show can be repeated. (When using the floppy disk, a slide show is up to approx. 20 minutes.) X ON/OFF Starts the slide show. Cancels the slide show settings or execution. | PLAY |
| PRINT MARK | ON X OFF | Marks the still images to be printed (page 80). Unmarks the print mark of the still images. | PLAY |
| PROTECT | ON X OFF | Protects images against accidental erasure (page 74). Releases protection of images. | PLAY |

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| Item | Setting | Description | PLAY/STILL/MOVIE selector |
|---|--|--|---------------------------|
| FORMAT (When the MS/FD selector is set to MS.) | OK CANCEL | Formats a "Memory Stick." Once you format the "Memory Stick," all of the data, including protected images are deleted. Be sure to check for images before you format a "Memory Stick." Cancels formatting of a "Memory Stick." | PLAY STILL MOVIE |
| FILE NUMBER | SERIES X NORMAL | Assigns numbers to files in sequence even if the floppy disk or the "Memory Stick" is changed. Note that file numbers are not in sequence between a floppy disk and a "Memory Stick." Resets the file number that starts from 001 or 0001 each time the floppy disk or the "Memory Stick" is changed. | STILL MOVIE |
| CLIP MOTION | 160x120 (NORMAL) 80x72 (MOBILE) CANCEL | Sets the image size and number of frames for creating GIF format animation (page 59). Up to 10 frames can be recorded. Up to 2 frames can be recorded. Cancels Clip Motion. | STILL |
| IMAGE SIZE (When the MS/FD selector is set to FD.) | MVC-FD100 X 1280x960 1280(3:2) 1024x768 640x480 MVC-FD200 X 1600x1200 1600 (3:2) 1600 (ECM) 1024x768 640x480 | Selects the image size when recording still images. | STILL |

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CAMERA

| Item | Setting | Description | PLAY/STILL/MOVIE selector |
|---------------|---------------------------------------|---|---------------------------|
| ISO | 400 200 100 X AUTO | Selects the ISO film speed. When recording under dark conditions or recording a fast-moving subject, use a high-number setting. To record high-quality images, use a low-number setting. (You can select this item only when the PROGRAM AE function is canceled or spot light-metering mode is set.) | STILL |
| DIGITAL ZOOM | X ON OFF | Uses a digital zoom. Does not use a digital zoom. | STILL |
| SHARPNESS | +2 to -2 | Adjusts the sharpness of the image. The  indicator appears (except when the setting is 0). | STILL |
| WHITE BALANCE | IN DOOR OUT DOOR HOLD X AUTO | Sets the white balance (page 68). | STILL MOVIE |
| FLASH LEVEL | HIGH X NORMAL LOW | Makes the flash level higher than normal. Normal setting. Makes the flash level lower than normal. | STILL |
| EXPOSURE | +2.0EV to -2.0EV | Adjusts the exposure before recording. | STILL MOVIE |

TOOL

| Item | Setting | Description | PLAY/STILL/MOVIE selector |
|---|------------------------------|--|---------------------------|
| COPY (When the MS/FD selector is set to FD.) | FD t FD FD t MS CANCEL | Copies the image to a floppy disk. Copies the image to a "Memory Stick." Cancels copying of the image (page 78). | PLAY |
| COPY (When the MS/FD selector is set to MS.) | MS t MS MS t FD CANCEL | Copies the image to a "Memory Stick." Copies the image to a floppy disk. Cancels copying of the image (page 78). | PLAY |

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Before performing advanced operations

Before performing advanced operations

| Item | Setting | Description | PLAY/STILL/MOVIE selector |
|---|--|--|---------------------------|
| RESIZE (When the MS/FD selector is set to FD.) | MVC-FD100 1280×960 1024×768 640×480 CANCEL MVC-FD200 1600×1200 1024×768 640×480 CANCEL | Changes the recorded image size in PLAY (single) mode (page 76). | PLAY |
| RESIZE (When the MS/FD selector is set to MS.) | MVC-FD100 1280 (FINE) 1024 (FINE) 640 (FINE) CANCEL MVC-FD200 1600 (FINE) 1024 (FINE) 640 (FINE) CANCEL | Changes the recorded image size in PLAY (single) mode (page 76). | PLAY |

SETUP

| Item | Setting | Description | PLAY/STILL/MOVIE selector |
|---------------|------------------------|---|---------------------------|
| DEMO | x STBY/ON OFF | Displayed only when you use the AC power adaptor in STILL or MOVIE mode. When [ON] is selected, a demonstration will start if you do not operate your camera for about 10 minutes. To stop the demonstration, turn off your camera. | STILL MOVIE |
| VIDEO OUT | NTSC PAL | Sets the video output signal to NTSC mode (e.g., the U.S.A., Japan). Sets the video output signal to PAL mode (e.g., Europe). | PLAY STILL MOVIE |
| 言語 / LANGUAGE | x ENGLISH 日本語 / JPN | Displays the menu items in English. Displays the menu items in Japanese. | PLAY STILL MOVIE |
| CLOCK SET | — | Sets the date and time (page 14). | PLAY STILL MOVIE |

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Before performing advanced operations

| Item | Setting | Description | PLAY/STILL/MOVIE selector |
|------------|------------------------|--|---------------------------|
| BEEP | SHUTTER x ON OFF | Turns on the shutter sound only. (The shutter sound is heard when you press the shutter button.) Turns on the beep/shutter sound (when you press the control button/shutter button). Turns off the beep/shutter sound. | PLAY STILL MOVIE |
| LCD BRIGHT | ■■■■■■■■ | Adjusts the LCD screen brightness using \rightarrow / \leftarrow on the LCD screen. | PLAY STILL MOVIE |

INDEX (Only in PLAY (single) mode)

Displays six images at a time (PLAY (INDEX) mode).

DELETE (Only in PLAY (single) mode)

| Setting | Description | PLAY/STILL/MOVIE selector |
|---------|--------------------------------|---------------------------|
| OK | Deletes the displayed image. | PLAY |
| CANCEL | Cancels deleting of the image. | |

↵ (Return) (Only in PLAY (INDEX) mode)

Returns to PLAY (single) mode.

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B Various recording

Setting the image size (IMAGE SIZE)



- 1 Set the PLAY/STILL/MOVIE selector to STILL or MOVIE.
- 2 Select [FILE] and then [IMAGE SIZE] from the menu.
- 3 Select the desired image size.

Still image sizes:

• MVC-FD100

When the MS/FD selector is set to FD

1280×960: 1.2 mega pixels
1280 (3:2)*
1024×768: 0.8 mega pixels
640×480: 0.35 mega pixels

When the MS/FD selector is set to MS

1280 (FINE): 1.2 mega pixels
1280 (3:2)*F
1024 (FINE): 0.8 mega pixels
640 (FINE): 0.35 mega pixels

• MVC-FD200

When the MS/FD selector is set to FD

1600×1200: 2.0 mega pixels
1600 (3:2)*
1600 (ECM)
1024×768: 0.8 mega pixels
640×480: 0.35 mega pixels

When the MS/FD selector is set to MS

1600 (FINE): 2.0 mega pixels
1600 (3:2)*
1024 (FINE): 0.8 mega pixels
640 (FINE): 0.35 mega pixels

(FINE): The images recorded on a "Memory Stick" have a higher picture quality. The size of a file that can be recorded on a "Memory Stick" is also larger than that of a floppy disk.

(ECM): The picture quality is lower, but more images can be recorded. If picture quality is more important than the number of images to be recorded, select [1600×1200].

* Your camera will record an image using a 3:2 ratio so that it matches the horizontal and vertical ratio 3:2 of print paper. Therefore, there will be no margin when the image is printed in the print paper. Please note that the top and bottom of the recording range displayed on the LCD screen (horizontal and vertical ratio 4:3) is cut off when the image is recorded in your camera.

Moving image sizes:

320×240, 160×112

Various recording

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The number of images or the time that you can record on a floppy disk or a "Memory Stick" (8 MB)

MVC-FD100

| Image size | Usage | Number of images to be recorded or time | |
|------------|----------------------------|---|--|
| | | Floppy disk | "Memory Stick" |
| 1280×960 | Printing in post card size | Approx. 6 | Approx. 12 |
| 1280 (3:2) | Printing in 3:2 ratio | Approx. 6 | Approx. 12 |
| 1024×768 | Home page, etc. | Approx. 10 | Approx. 20 |
| 640×480 | Attaching to e-mail | Approx. 30 | Approx. 48 |
| 320×240*2) | Viewing on computer | Approx. 15 sec. | Approx. 80 sec. (Approx. 15 sec.)*3) |
| 160×112*2) | Attaching to e-mail | Approx. 60 sec. | Approx. 320 sec. (Approx. 60 sec.)*3) |

MVC-FD200

| Image size | Usage | Number of images to be recorded or time | |
|------------|------------------------------------|---|----------------------------------|
| | | Floppy disk | "Memory Stick" |
| 1600×1200 | Printing in size A4 | Approx. 4 | Approx. 8 |
| 1600 (3:2) | Printing in 3:2 ratio | Approx. 4 | Approx. 8 |
| 1600 (ECM) | Recording a large number of images | Approx. 8 | — |
| 1024×768 | Home page, etc. | Approx. 10 | Approx. 20 |
| 640×480 | Attaching to e-mail | Approx. 30 | Approx. 48 |
| 320×240*2) | Viewing on computer | Approx. 15 sec. | Approx. 80 sec. (15 sec.)*3) |
| 160×112*2) | Attaching to e-mail | Approx. 60 sec. | Approx. 320 sec. (60 sec.)*3) |

*1) When REC MODE is set to NORMAL.

*2) Image size of a moving image.

*3) The maximum recording time in continuous recording.

Recording time and number of images to be recorded

The recording time and the number of images to be recorded may differ from the above values depending on the recording conditions.

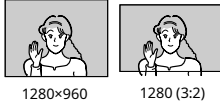
Notes

- If you try to record 55 images or more on a floppy disk, even if the remaining disk capacity is sufficient, "DISK FULL" appears on the LCD screen and you cannot record any more images.
- If you try to record 3001 images or more on a "Memory Stick," even if the remaining memory capacity of the "Memory Stick" is sufficient, "NO MEMORY SPACE" appears on the LCD screen and you cannot record any more images.
- When the TEXT mode is selected, the number of images that can be recorded will be the same as that of [1600×1200] even if you select [1600 (ECM)] for image size.

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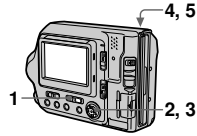
Tips

The size of the image is indicated by the pixel unit. The higher the number of pixels, the more information is included. So, an image that is saved using a large number of pixels is suitable for a large-format print and one that is saved using a smaller number of pixels is suitable for attaching to an E-mail. Normally, an image is recorded in the ratio of four to three to fit the monitor ratio. This camera can also record the image in the ratio of three to two to accommodate the most common printing paper size. This is the same ratio as the one used in photo-developing shops.



Creating Clip Motion Files

Clip Motion is an animation function that plays back still images in succession. Clip Motion images are played back on this camera at approximately 0.5 s intervals. The images are stored in GIF format, which is convenient for creating home pages or attaching images to an e-mail.



1 Set the PLAY/STILL/MOVIE selector to STILL.

2 Select [FILE] and then [CLIP MOTION] from the menu.

3 Select the desired mode.

160x120 (NORMAL)

Clip Motion of up to 10 frames can be recorded.

This is suitable for use on home pages, etc.

80x72 (MOBILE)

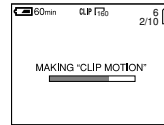
Clip Motion of up to 2 frames can be recorded.

This is suitable for use with portable data terminals.

CANCEL

This cancels the creation of Clip Motion.

4 Record the image for the first frame.



5 Record the image for the next frame.

Image recording can be repeated up to the maximum number of recordable frames. The frame images are automatically recorded on the floppy disk or the "Memory Stick" when you select [FINISH] or after recording the maximum number of frames.

To stop Clip Motion creation

Select [RETURN] after step 3. Note that if you record even one frame, you cannot stop Clip Motion creation.

The number of Clip Motion frames that you can record on a floppy disk or a "Memory Stick" (8 MB)

| Image size | Number of images | |
|------------------|------------------|---------------|
| | Floppy disk | Memory Stick |
| 160x120 (NORMAL) | Approx. 7* | Approx. 40* |
| 80x72 (MOBILE) | Approx. 54** | Approx. 400** |

* When recording 10 frames per Clip Motion file

** When recording 2 frames per Clip Motion file

Notes

- Reading and writing data takes more time than normal image recording.
- Due to the limitations of the GIF format, the number of colors for Clip Motion images is reduced to 256 colors or less. Therefore, the picture quality may deteriorate for some images.
- The file size is reduced in MOBILE mode, so the picture quality deteriorates.
- GIF files not created on this camera may not be displayed correctly.

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Recording still images for e-mail (E-MAIL)

The E-MAIL mode records a small-size (320x240) image at the same time as a still image. Small-size images are convenient for e-mail transmission, etc. Images in E-MAIL mode are recorded in the JPEG format.



1 Set the PLAY/STILL/MOVIE selector to STILL.

2 Select [FILE], [REC MODE], and then [E-MAIL] from the menu.

3 Record the image.

The number of images that you can record on a floppy disk or a "Memory Stick" (8 MB) in E-MAIL mode

MVC-FD100

| Image size | Number of images | |
|------------|------------------|--------------|
| | Floppy disk | Memory Stick |
| 1280x960 | Approx. 5 | Approx. 12 |
| 1280 (3:2) | Approx. 5 | Approx. 12 |
| 1024x768 | Approx. 8 | Approx. 20 |
| 640x480 | Approx. 22 | Approx. 43 |

MVC-FD200

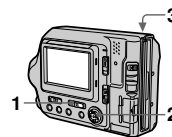
| Image size | Number of images | |
|------------|------------------|--------------|
| | Floppy disk | Memory Stick |
| 1600x1200 | Approx. 3 | Approx. 8 |
| 1600 (3:2) | Approx. 3 | Approx. 8 |
| 1600 (ECM) | Approx. 7 | — |
| 1024x768 | Approx. 8 | Approx. 20 |
| 640x480 | Approx. 22 | Approx. 43 |

To return to normal recording mode

Select [NORMAL] in step 2.

Recording text documents (TEXT)

Text is recorded in GIF format to provide a clear image.



1 Set the PLAY/STILL/MOVIE selector to STILL.

2 Select [FILE], [REC MODE], and then [TEXT] from the menu.

3 Record the image.

The number of images that you can record on a floppy disk or a "Memory Stick" (8 MB) in TEXT mode

MVC-FD100

| Image size | Number of images | |
|------------|------------------|--------------|
| | Floppy disk | Memory Stick |
| 1280x960 | Minimum 7 | Minimum 36 |
| 1280 (3:2) | Minimum 8 | Minimum 40 |
| 1024x768 | Minimum 11 | Minimum 54 |
| 640x480 | Minimum 28 | Minimum 121 |

MVC-FD200

| Image size | Number of images | |
|------------|------------------|--------------|
| | Floppy disk | Memory Stick |
| 1600x1200 | Minimum 4 | Minimum 24 |
| 1600 (3:2) | Minimum 5 | Minimum 26 |
| 1600 (ECM) | Minimum 4 | — |
| 1024x768 | Minimum 11 | Minimum 54 |
| 640x480 | Minimum 28 | Minimum 121 |

* The maximum number of recordable images depends on the document condition, such as the amount of text portions.

To return to normal recording mode

Select [NORMAL] in step 2.

Notes

- If the subject is not evenly illuminated, you may be unable to record a clear image.
- Writing and reading data take more time than normal recording.
- When TEXT mode is selected, you cannot use the PROGRAM AE function.

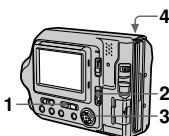
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Recording still images as uncompressed files (TIFF)

This mode simultaneously records still images in both TIFF format (uncompressed) and JPEG format (compressed) when using a "Memory Stick."

Since this mode records images without compressing data, the quality of picture will hardly deteriorate. Use this mode when you want to print images with photograph picture quality.



- 1 Set the PLAY/STILL/MOVIE selector to STILL.
- 2 Set the MS/FD selector to MS.
- 3 Select [FILE], [REC MODE], and then [TIFF] from the menu.
- 4 Record the image.

The number of images that you can record on a "Memory Stick" (8 MB) in TIFF mode

MVC-FD100

| Image size | Number of images |
|------------|------------------|
| 1280×960 | 1 |
| 1280 (3:2) | 2 |

MVC-FD200

| Image size | Number of images |
|------------|------------------|
| 1600×1200 | 1 |
| 1600 (3:2) | 1 |

To return to normal recording mode
Select [NORMAL] in step 3.

Notes

- JPEG images are recorded using the image size selected in the [IMAGE SIZE] menu (page 57). Images are automatically recorded using the image size [1280×960] unless [1280 (3:2)] is selected for MVC-FD100.
- Images are automatically recorded using the image size [1600×1200] unless [1600 (3:2)] is selected for MVC-FD200.
- Writing data takes more time than in normal recording.

B&W recording

Recording images in macro

Use this mode when you record a small subject such as flower or insect from close up.



- 1 Set the PLAY/STILL/MOVIE selector to STILL or MOVIE.
- 2 Press FOCUS repeatedly until the (macro) indicator appears on the LCD screen.
With the zoom lever set to the W side, you can shoot a subject that is about 3 cm (1 3/16 inch) away from the lens surface in macro mode.

To return to normal recording mode

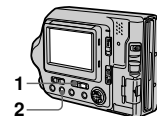
Press FOCUS repeatedly until both the and 9 indicators disappear.

Notes

- You cannot record images in macro with the following PROGRAM AE modes:
—Landscape mode
—Panfocus mode
- You cannot record images in macro if the indicator appears.

Setting the distance to the subject

The focus is automatically adjusted. This function is useful when you record a subject by presetting the recording distance in accordance with the distance to the subject or the auto focus does not work well.



- 1 Set the PLAY/STILL/MOVIE selector to STILL or MOVIE.
- 2 Press FOCUS repeatedly until a sharp focus is achieved.
The 9 (manual focus) indicator appears on the LCD screen. You can select from six focus settings:
 (macro), 0.5 m, 1.0 m, 3.0 m, 7.0 m, and ∞ (infinity).

To reactivate auto focusing

Press FOCUS repeatedly until both the and 9 indicators disappear.

Notes

- Focal point information may not completely show the correct distance. Use the information as a guide.
- Focal point information does not show the correct distance when attaching the conversion lens (optional).
- If you shoot a subject within 0.8 m (31 1/2 inches) while the zoom lever is set to T side, you cannot get a clear focus. In such cases, the focal point information flashes. Move the zoom lever to the W side until the indicator stops flashing.
- You cannot use this function if you have selected the Panfocus mode in the PROGRAM AE function.

Using the PROGRAM AE function



- 1 Set the PLAY/STILL/MOVIE selector to STILL.
- 2 Press PROGRAM AE repeatedly to select the desired PROGRAM AE mode.

Twilight mode

Suppresses the blurring of colors of a bright subject in a dark place so that you can record the subject without losing the dark atmosphere of the surroundings.

Twilight plus mode

Increases the effectiveness of the twilight mode function.

Landscape mode

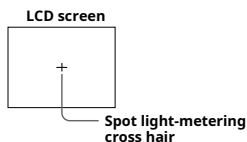
Focuses only on a distant subject to record landscapes, etc.

Panfocus mode

Changes the focus quickly and simply from a close subject to a distant subject.

Spot light-metering mode

Select this mode when there is backlight or when there is strong contrast between the subject and the background, etc. Position the point you want to record at the spot light-metering cross hair.



To cancel PROGRAM AE

Press PROGRAM AE repeatedly until the indicator on the LCD screen goes out.

Notes

- You can focus only on distant subjects in Landscape mode.
- In Panfocus mode, the zoom position is set to the W side and focus is fixed.
- When you record in Twilight plus mode, we recommend that you use a tripod to prevent shaking.
- Set the forced flash when you use the flash in the following modes:
—Twilight mode
—Twilight plus mode
—Landscape mode
- You cannot use the PROGRAM AE function when the moving or still image of TEXT mode is recorded.
- The ISO film speed is set to AUTO when a PROGRAM AE function other than the spot light-metering mode is set.

B&W recording

Tips

Under normal recording conditions, the camera automatically makes various adjustments, such as those for the focus, iris, exposure, and white balance, as it shoots. However, you may not be able to carry out your desired shooting depending on shooting conditions. The PROGRAM AE function provides you with near-optimum adjustments to suit your shooting situation.



Adjusting the exposure (EXPOSURE)



- 1 Set the PLAY/STILL/MOVIE selector to STILL or MOVIE.
- 2 Select [CAMERA] and then [EXPOSURE] from the menu.
- 3 Select the desired exposure value.

Adjust the exposure value while checking the brightness of the background. You can select values ranging from +2.0 EV to -2.0 EV in steps of 1/3 EV.

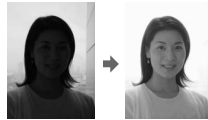
Note

If a subject is under extremely bright or dark situations, or the flash is used, the exposure adjustment may not be effective.

Tips

Normally, the camera automatically adjusts the exposure. If the color of the image is too dark or bright as shown below, we recommend that you adjust the exposure manually. When recording a backlit subject or a subject in the snow, set the exposure toward +, and when recording a subject with extremely bright illumination such as a spotlight, set it toward -.

Set the exposure toward +



Set the exposure toward -



B&W/Various recording

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Adjusting the white balance (WHITE BALANCE)

When the white balance mode is set to AUTO, your camera automatically sets white balance in accordance with the recording conditions and adjusts the balance of all colors in an image. If you want to fix the recording conditions or record an image in specific lighting conditions, you can set the desired white balance mode.



- 1 Set the PLAY/STILL/MOVIE selector to STILL or MOVIE.
- 2 Select [CAMERA] and then [WHITE BALANCE] from the menu.
- 3 Select the desired white balance setting.

IN DOOR (n)

- Places where the lighting condition changes quickly
- Under bright lighting such as photography studios
- Under sodium or mercury lamps

OUT DOOR (☀)

Recording a sunrise/sunset, night scene, neon signs, or fireworks

HOLD (HOLD)

Retains the adjusted white balance value

AUTO (No indicator)

Adjusts the white balance automatically

To reactivate auto adjustment
Select [AUTO] in step 3.

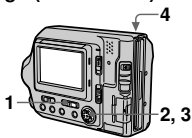
Tips

The image is affected by the lighting conditions. The image looks blue under sunlight in the summer, and looks red under mercury lamps. Human eyes can resolve these problems. However, the camera cannot resolve the problem without making adjustments. Normally, the camera adjusts automatically, but if the image appears in strange colors, we recommend that you change the white balance mode.



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Recording the date and time on the still image (DATE/TIME)



- 1 Set the PLAY/STILL/MOVIE selector to STILL.
- 2 Select [EFFECT] and then [DATE/TIME] from the menu.
- 3 Select the date and time.

DAY & TIME

Superimposes the date, hour, and minute.

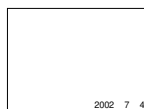
DATE

Superimposes the year, month, and day.

OFF

Does not superimpose the date and time.

- 4 Record the image.
The date and time do not appear on the LCD screen during shooting. These appear during playback only.



Notes

- When [DATE] is selected in step 3, the date is imposed in the order set by the CLOCK SET item (page 14).
- The date and time are not imposed onto Clip Motion images.

Enjoying picture effects (PICTURE EFFECT)



- 1 Set the PLAY/STILL/MOVIE selector to STILL or MOVIE.
- 2 Select [EFFECT] and then [P. EFFECT] from the menu.
- 3 Select the desired mode.

SOLARIZE

The light contrast is clearer and the picture looks like an illustration.

B&W

The picture is monochrome (black and white).

SEPIA

The picture is sepia-toned like an old photograph.

NEG.ART

The color and brightness of the picture are reversed as in a negative.

OFF

Does not use the picture effect function.

To cancel picture effect

Select [OFF] in step 3.

B&W/Various recording

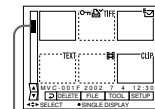
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B Various playback

Playing back six images at once (INDEX)



- 1 Set the PLAY/STILL/MOVIE selector to PLAY.
- 2 Select [INDEX] on the LCD screen.
Six images are displayed at once (index screen). Only the first frame of Clip Motion files is displayed.



This shows the position of the currently displayed images relative to all the recorded images.

The following marks are displayed on each image according to the image type and settings.

- MOV: Moving image file
- E: E-mail file
- P: Print mark
- PRO: Protect mark
- TEXT: TEXT file
- TIFF: TIFF file
- CLIP: Clip Motion file
- (No mark): Normal recording (no settings)

To display the next (previous) index screen

Select V/V at the lower-left on the LCD screen.



Displays the previous index screen.

Displays the next index screen.

To return to normal playback (single image)

- Select the desired image with the control button.
- Select [Return] (Return).

Note

When viewing an image recorded in Clip Motion or TEXT mode on the INDEX screen, the image may appear different from the actual image.

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Enlarging a part of the still image (Zoom and trimming)



- 1 Set the PLAY/STILL/MOVIE selector to PLAY.
- 2 Display the image to be enlarged.
- 3 Zoom in/out the image with the zoom lever.
The zoom scaling indicator appears on the LCD screen.
- 4 Press the control button repeatedly to select the desired portion of the image.
V : The image moves downward
V : The image moves upward
b : The image moves rightward
B : The image moves leftward

To return to the normal size

Zoom out with the zoom lever until the zoom scaling indicator (Q x1.1) disappears from the screen, or simply press the center Z.

To record an enlarged image (trimming)

- 1 Enlarge the image.
- 2 Press the shutter button. The image is recorded at 640x480 size and the image on the LCD screen returns to the normal size after recording.

Notes

- You cannot trim moving images, still images recorded in Clip Motion, TEXT mode, or uncompressed images.
- Zoom scaling is up to 5x regardless of the original image size.
- The quality of enlarged images may be deteriorated.
- The original data is left even if you enlarge the image.
- The enlarged image is recorded as the newest file.

Playing back the still images in order (SLIDE SHOW)

This function plays back the recorded still images one after another. This function is useful for checking the recorded images or for presentations, etc.



- 1 Set the PLAY/STILL/MOVIE selector to PLAY.
- 2 Select [FILE] and then [SLIDE SHOW] from the menu.
Set the following items.

INTERVAL

You can select from 1 min (one minute), 30 sec (30 seconds), 10 sec (10 seconds), 5 sec (5 seconds), or 3 sec (3 seconds).

REPEAT

ON: Plays back images continuously in a loop until [RETURN] is selected (the slide show stops automatically after approximately 20 minutes* when the image is played back from a floppy disk).

OFF: After all images have been played back, the slide show ends.

*The slide show does not end until all the images are played back, even if it takes more than 20 minutes.

- 3 Select [START].
The slide show begins.

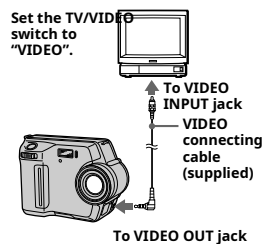
B Various playback

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Viewing images on a TV screen

You can play back the recorded images by connecting your camera to the TV. Before connecting your camera, be sure to turn off the TV, connect the VIDEO connecting cable, and turn on the TV.

Set the TV/VIDEO switch to "VIDEO".



- 1 Connect the VIDEO connecting cable to the VIDEO OUT jack of your camera and to the VIDEO INPUT jack of the TV.
- 2 Turn on the TV and start playback on your camera.
The playback image appears on the TV screen.

Note

- You cannot use a TV that has an antenna (aerial) connector only.
- When viewing a still image on the TV, the black band may appear around the image.

B Various playback

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B Editing

Preventing accidental erasure (PROTECT)

This function is used to prevent any valuable images that you have recorded from being erased accidentally. The - (protect) indicator appears on protected images.

Note:

If you format a floppy disk or a "Memory Stick", all images are erased even when they are protected.



In single mode

- 1 Set the PLAY/STILL/MOVIE selector to PLAY, then display the image to be protected.
- 2 Select [FILE], [PROTECT], and then [ON] from the menu.
The displayed image is protected and the - indicator appears.

To release protection

Select [OFF] in step 2.

In INDEX mode

- 1 Set the PLAY/STILL/MOVIE selector to PLAY, then display the INDEX screen.

To cancel the slide show

Select [CANCEL] in step 2 or 3.

To skip to the next/previous image during the slide show

Select \b/B\ at the lower-left on the LCD screen.

Note

The interval setting time may vary depending on the image size.

- 2 Select [FILE], [PROTECT], and then [ALL] or [SELECT] from the menu.

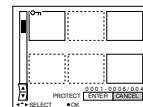
- 3 When you select [ALL]

Select [ON].

All the images in the floppy disk or the "Memory Stick" are protected.

When you select [SELECT]

Select all the images to be protected with the control button, then select [ENTER]. The selected images are protected.



To release protection

If you selected [ALL] in step 2, select [OFF]. If you selected [SELECT] in step 2, select the images to be unprotected with the control button, then select [ENTER].

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Deleting images (DELETE)

You can delete the images that are no longer required.
Protected images cannot be deleted.



In single mode


- 1 Set the PLAY/STILL/MOVIE selector to PLAY, then display the image to be deleted.
- 2 Select [DELETE] and then [OK] from the menu.
The image is deleted.

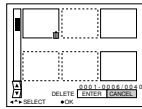
In INDEX mode

- 1 Set the PLAY/STILL/MOVIE selector to PLAY, then display the INDEX screen.
- 2 Select [DELETE] and then [ALL] or [SELECT] from the menu.

3 When you select [ALL]

Select [ENTER].
All the unprotected images are deleted.

When you select [SELECT]
Select all the images to be deleted with the control button, then select [ENTER]. The  (delete) indicator appears on the selected images and these images are deleted.



To cancel deleting

Select [CANCEL] in step 2 or 3.

Note

If there are files on the "Memory Stick" with names having the same last 4 digits as the file name of the image to be deleted, these files are also deleted at the same time.

BEEDING

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Changing the recorded still image size (RESIZE)

Use this function when you need a small-size image to attach it to an E-mail. The original image is retained even after resizing. The resized image is recorded as the newest file.



- 1 Set the PLAY/STILL/MOVIE selector to PLAY, then display the image of which you want to change the size.
- 2 Select [TOOL] and then [RESIZE] from the menu.

3 Select the desired size.

• MVC-FD100:
When the MS/FD selector is set to FD
1280×960, 1024×768, 640×480

When the MS/FD selector is set to MS
1280 (FINE), 1024 (FINE), 640 (FINE)

• MVC-FD200:
When the MS/FD selector is set to FD
1600×1200, 1024×768, 640×480
When the MS/FD selector is set to MS
1600 (FINE), 1024 (FINE), 640 (FINE)

The resized image is recorded, then the display returns to the image display before resizing.

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Copying images (COPY)

Copies images to another floppy disk or "Memory Stick."

In single mode



- 1 Select the media using the MS/FD selector.
- 2 Set the PLAY/STILL/MOVIE selector to PLAY, then display the image to be copied.
- 3 Select [TOOL], and then [COPY] from the menu.

4 Select the media that the image will be copied onto.

• When the MS/FD selector is set to FD.

FD t FD
Copies to the floppy disk

FD t MS
Copies to the "Memory Stick"

• When the MS/FD selector is set to MS.

MS t MS
Copies to the "Memory Stick"

MS t FD
Copies to the floppy disk

When you select [FD t MS] or [MS t FD], the camera automatically starts copying if the floppy disk and "Memory Stick" are inserted.

5 Insert or change the floppy disk or the "Memory Stick" following the messages on the LCD screen.

"RECORDING" appears. When copying is completed, "COMPLETE" appears.
To end copying, select [EXIT].

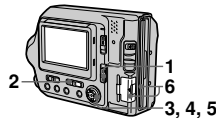
To continue copying the image to other floppy disks or "Memory Stick"s

After "COMPLETE" appears in step 5, select [CONTINUE] and repeat step 5 above.

BEEDING

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In INDEX mode



- 1 Select the media using the MS/FD selector.
- 2 Set the PLAY/STILL/MOVIE selector to PLAY, then display the INDEX screen.

- 3 Select [TOOL], and then [COPY] from the menu.

4 Select the media that the image will be copied onto.

• When the MS/FD selector is set to FD.

FD t FD
Copies to the floppy disk

FD t MS
Copies to the "Memory Stick"

• When the MS/FD selector is set to MS.

MS t MS
Copies to the "Memory Stick"

MS t FD
Copies to the floppy disk

To cancel changing the size

Select [CANCEL] in step 3.

Notes


- You cannot change the size of images recorded in TEXT mode, moving images, uncompressed images, or Clip Motion images.
- When you change from a small size to a large size, the picture quality deteriorates.
- If you resize the recorded still image, the space remaining on a floppy disk or a "Memory Stick" will decrease.
- You may not be able to resize a recorded still image if there is insufficient space remaining on a floppy disk or a "Memory Stick."
- You cannot resize the recorded still image to an image size of 3:2.
- If you resize a 3:2 size recorded still image to another size, a black band will be displayed above and below the resized image.
- You cannot resize the recorded still image in the index screen.

5 When you select [ALL]*

Select [OK].

*[ALL] can be selected only when selecting [FD t FD] or [FD t MS].

When you select [SELECT]**

Select all the images to be copied with the control button. The  mark appears on the selected images and then select [ENTER].

* When selecting [MS t FD], the necessary number of floppy disks appears after selecting [ENTER]. Select [OK] again.

6 Insert or change the floppy disk or the "Memory Stick" following the messages on the LCD screen.

"RECORDING" appears. When copying is completed, "COMPLETE" appears.
To end copying, select [EXIT].

To continue copying the image to other floppy disks or "Memory Stick"s

After "COMPLETE" appears in step 6, select [CONTINUE] and repeat step 6.

When selecting [MS t FD], if the amount of total images that will be copied is too large to copy to one floppy disk, the images will be copied using multiple floppy disks.

To cancel copying partway

Select [CANCEL].

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Notes

- You cannot copy uncompressed images.
- You cannot copy the image that is bigger than 1.4 MB.
- You cannot copy the images that the total amount of the images is bigger than 1.4 MB. If "NOT ENOUGH MEMORY" appears or ✓ flashes on the INDEX screen, cancel some images to copy and try again.
- If you eject and insert the floppy disk or the "Memory Stick" without selecting [EXIT] after "COMPLETE" appears, the image will be copied.
- The number of floppy disks that is needed for copying is as a guide, which is displayed when selecting [MST FD].

Copying all the information on your floppy disk (DISK COPY)

You can copy to another disk not only the images you have recorded with your camera but also various files you have created in other software with your computer.

Notes

- Once you carry out DISK COPY, all information saved on the recipient floppy disk is erased to be replaced by newly written data including the protected image data. Check the contents of the recipient disk before copying the disk.
- Be sure to use the floppy disk that has been formatted by this camera to carry out DISK COPY (page 81).



- Set the MS/FD selector to FD, then insert the floppy disk to be copied.
- Select [FILE], [DISK TOOL], [DISK COPY], and then [OK] from the menu. "DISK ACCESS" appears.
- When "CHANGE FLOPPY DISK" is displayed, eject the floppy disk. "INSERT FLOPPY DISK" appears.

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- Insert another floppy disk. "RECORDING" appears. When copying is completed, "COMPLETE" appears. To end copying, select [EXIT].

To continue copying to other floppy disks

After "COMPLETE" appears in step 4, select [CONTINUE] and repeat steps 3 and 4 above.

To cancel copying partway

Select [CANCEL].

Note

If you eject and insert the floppy disk without selecting [EXIT] after "COMPLETE" appears, DISK COPY will be carried out onto the floppy disk.

Selecting still images to print (PRINT MARK)

You can mark a print mark on still images recorded with your camera. This mark is convenient when you have images printed at a shop that conforms with the DPOF (Digital Print Order Format) standard.



In single mode

- Set the PLAY/STILL/MOVIE selector to PLAY and display the image you want to print.
- Select [FILE], [PRINT MARK], and then [ON] from the menu. The (print mark) mark is marked on the displayed image.

To unmark the print mark

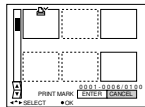
Select [OFF] in step 2.

In INDEX mode

- Set the PLAY/STILL/MOVIE selector to PLAY, then display the INDEX screen.
- Select [FILE], [PRINT MARK], and then [SELECT] from the menu.
- Select the images to be marked with the control button.

- Select [ENTER].

The (print mark) marks on the selected images change from green to white.



To unmark selected print marks

Select the images to be unmarked in step 3 with the control button, then select [ENTER].

To unmark all the print marks

Select [FILE], [PRINT MARK], [ALL], and then [OFF] from the menu. The (print mark) marks on all images are removed.

To print out using the FVP-1 Mavica Printer

Set PRESET SELECT SW to PC on the printer.

Notes

- You cannot mark moving images, Clip Motion images or images recorded in TEXT mode.
- If you mark an image recorded in TIFF mode with a print mark, only the uncompressed image is printed, and the JPEG image recorded at the same time is not printed.

Format

When you format a floppy disk or a "Memory Stick," all data stored on the floppy disk or the "Memory Stick" will be deleted. Check the contents of the floppy disk or the "Memory Stick" before formatting.

Note

Even if images are protected, these images will be deleted.



- Select the floppy disk or the "Memory Stick" using the MS/FD selector.
- Insert only the floppy disk or the "Memory Stick" you want to format. Be sure to insert only the media you want to format.
- Select [FILE] from the menu.
 - When formatting a floppy disk: Select [DISK TOOL], [FORMAT], and then [OK] from the menu.
 - When formatting a "Memory Stick": Select [FORMAT], and then [OK] from the menu.

To cancel formatting

Select [CANCEL] in step 3.

BEEDING

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Notes

- Format the floppy disk or the "Memory Stick" only using this camera. You cannot format the floppy disk or the "Memory Stick" using a computer via the USB cable.
- When you format, be sure to use a fully charged battery pack or the AC power adaptor as the power source.

B As an external drive

Using the camera as an external drive of a computer

Once you connect the camera to a computer using the USB cable, you can use the camera as a floppy disk/ "Memory Stick" drive of a computer. Install the USB driver to the computer beforehand (page 29).

For Windows 98, Windows 98SE, Windows 2000, Windows Me and Windows XP Users

- Select the drive type using the MS/FD selector on this camera.
 - When used as the floppy disk drive, set the MS/FD selector to FD.
 - When used as the "Memory Stick" drive, set the MS/FD selector to MS.
- Connect the AC power adaptor and turn on the camera.
- Connect the camera to the computer using the supplied USB cable.

- Open "My Computer" on Windows and check the icon "Removable Disk," then use the camera as an external drive.

Note

- When using Windows 2000, Windows Me, or Windows XP, see also page 31.
- The drive symbol ((D:), etc.) may differ depending on your computer.
- If you are using Mac OS X (v10.0/v10.1), you can use only a "Memory Stick" with a computer running Mac OS X (v10.0/v10.1). Even if you insert a floppy disk, Mac OS X (v10.0/v10.1) cannot recognize it. To use data saved on a floppy disk, copy it to a "Memory Stick" first (page 77).

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Additional information

Precautions

On cleaning

Cleaning the LCD screen

Wipe the screen surface with a cleaning cloth (optional) or an LCD cleaning kit (optional) to remove fingerprints, dust, etc.

Cleaning the camera surface

Clean the camera surface with a soft cloth slightly moistened with water, then wipe the surface dry. Do not use any type of solvent such as thinner, alcohol or benzene as this may damage the finish or the casing.

After using your camera at the seashore or other dusty locations

Clean your camera carefully. Otherwise, the salty air may corrode the metal fittings or dust may enter the inside of your camera, causing a malfunction.

On floppy disks

To protect data recorded on floppy disks, note the following:

- Avoid storing floppy disks near magnets or magnetic fields such as those of speakers and televisions. Otherwise, permanent erasure of disk data may result.
- Avoid storing floppy disks in areas subject to direct sunlight or sources of high temperature, such as a heating device. Floppy disk warping or damage may result, rendering the disk useless.
- Avoid contact with the disk's surface by opening the disk shutter plate. If the disk's surface becomes blemished, data may be rendered unreadable.

- Avoid getting liquids on the floppy disk.
- Be sure to use a floppy disk case to ensure protection of important data.
- Even when you use a 3.5-inch 2HD floppy disk, image data may not be recorded and/or displayed depending on the using environment. In this case, use a disk of other brand.

On operating temperature

Your camera is designed for use between the temperatures of 0°C to 40°C (32°F to 104°F). Recording in extremely cold or hot places that exceed this range is not recommended.

On moisture condensation

If the camera is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense inside or outside the camera. Should this occur, the camera will not operate properly.

Moisture condensation occurs easily when:

- The camera is brought from a cold location such as a ski slope into a warmly heated room.
- The camera is taken from an air-conditioned room or car interior to the hot outdoors, etc.

How to prevent moisture condensation

When bringing the camera from a cold place to a warm place, seal the camera in a plastic bag and allow it to adapt to conditions at the new location over a period of time (about an hour).

Additional information

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Charging the built-in rechargeable lithium battery:

- Connect your camera to house current (mains) using the AC power adaptor supplied with your camera, and leave your camera with the power turned off for more than 24 hours.
- Or install the fully charged battery pack in your camera, and leave your camera with the power turned off for more than 24 hours.

If any problem occurs, unplug your camera and contact your nearest Sony dealer.



On "Memory Stick"s

"Memory Stick" is a new compact, portable and versatile IC recording medium with a data capacity that exceeds a floppy disk. "Memory Stick" is specially designed for exchanging and sharing digital data among "Memory Stick" compatible products. Because it is removable, "Memory Stick" can also be used for external data storage.

There are two types of "Memory Stick"s: general "Memory Stick"s and "MagicGate Memory Stick"s that are equipped with the MagicGate* copyright protection technology. You can use both types of "Memory Stick" with your camera. However, because your camera does not support the MagicGate standards, data recorded with your camera is not subject to MagicGate copyright protection.

* MagicGate is copyright protection technology that uses encryption technology.

Notes

- It is recommended that you make a backup copy of your important data.
- Do not remove the "Memory Stick" while reading or writing data.
- Data may be damaged if:
 - you remove the "Memory Stick" or turn off your camera while reading or writing data.
 - you use the "Memory Stick" in a location subject to the effects of static electricity or noise.
- Do not attach any other material than the supplied label on the labeling position.
- When you carry or store the "Memory Stick," put it in its supplied case.
- Do not touch the terminals of a "Memory Stick" with your hand or a metal object.
- Do not strike, bend or drop the "Memory Stick."
- Do not disassemble or modify the "Memory Stick."
- Do not allow the "Memory Stick" to get wet.
- Do not use or keep "Memory Stick"s in locations that are:
 - Extremely hot such as in a car parked in the sun or under the scorching sun.
 - Under direct sunlight.
 - Very humid or subject to corrosive gases.
- "Memory Stick", , "MagicGate Memory Stick" and  are trademarks of Sony Corporation. "MagicGate" and **MAGICGATE** are trademarks of Sony Corporation.

Using your camera abroad

Power sources

You can use your camera in any country or area with the supplied battery charger within 100 V to 240 V AC, 50/60 Hz. Use a commercially available AC plug adaptor [a], if

If moisture condensation occurs

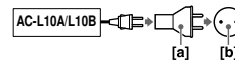
Immediately eject the floppy disk, then turn off the camera and wait about an hour for the moisture to evaporate. Note that if you attempt to record with moisture remaining inside the lens, you will be unable to record clear images.

On AC power adaptor

- Unplug the unit from the wall outlet (wall socket) when you are not using the unit for a long time. To disconnect the power cord (mains lead), pull it out by the plug. Never pull the power cord (mains lead) itself.
- Do not operate the unit with a damaged cord (mains lead) or if the unit has been dropped or damaged.
- Do not bend the power cord (mains lead) forcibly, or place a heavy object on it. This will damage the cord (mains lead) and may cause fire or electrical shock.
- Prevent metallic objects from coming into contact with the metal parts of the connecting section. If this happens, a short may occur and the unit may be damaged.
- Always keep metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment. AM receivers and video equipment disturb AM reception and video operation.
- The unit becomes warm during use. This is not a malfunction.
- Do not place the unit in locations that are:
 - Extremely hot or cold
 - Dusty or dirty
 - Very humid
 - Vibrating

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necessary, depending on the design of the wall outlet (wall socket) [b].



Watching the playback picture on TV

If you want to view the playback picture on a TV, you need a TV having a video input jack and a video connecting cable.

The color system of the TV must be the same as that of your digital still camera. Check the following list:

NTSC system

Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Guyana, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

PAL system

Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Holland, Hong Kong, Hungary, Italy, Kuwait, Malaysia, New Zealand, Norway, Poland, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, United Kingdom, etc.

PAL-M system

Brazil

PAL-N system

Argentina, Paraguay, Uruguay

SECAM system

Bulgaria, France, Guiana, Iran, Iraq, Monaco, Russia, Ukraine, etc.

On battery pack

- Use only the specified charger with the charging function.
- To prevent accident from a short circuit, do not allow metal objects to come into contact with the battery terminals.
- Keep the battery pack away from fire.
- Never expose the battery pack to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.
- Keep the battery pack dry.
- Do not expose the battery pack to any mechanical shock.
- Do not disassemble nor modify the battery pack.
- Attach the battery pack to the camera securely.
- Charging while some capacity remains does not affect the original battery capacity.

On the built-in rechargeable lithium battery

Your camera is supplied with a built-in rechargeable lithium battery installed to retain the date/time and various settings, regardless of the setting of the POWER switch. The built-in rechargeable lithium battery is always charged as long as you are using your camera. The battery, however, will get discharged gradually if you do not use your camera. It will be completely discharged in about one month if you do not use your camera at all. Even if the built-in rechargeable lithium battery is not charged, it will not affect the camera operation. To retain the date and time, etc., charge the battery if the battery is discharged.

About "InfoLITHIUM" battery pack

What is the "InfoLITHIUM" battery pack?

The "InfoLITHIUM" battery pack is a lithium-ion battery pack that has functions for communicating information related to operating conditions between your camera and the AC adaptor/charger (optional). The "InfoLITHIUM" battery pack calculates power consumption according to the operating conditions of your camera and displays the remaining battery time in minutes. If you use the AC adaptor/charger (optional), it will calculate and display the operation time and charging completion time also.

Charging the battery pack

- Be sure to charge the battery pack before you start using your camera.
- We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F) until the POWER ON/OFF (CHG) lamp goes out, indicating that the battery pack is fully charged. If you charge the battery pack outside of this temperature range, you may not be able to efficiently charge the battery pack.
- After charging is completed, either disconnect the AC power adaptor from the DC IN jack on your camera or remove the battery pack.

Additional information

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Effective use of the battery pack

- Battery performance decreases in low-temperature surroundings. So, the time that the battery pack can be used is shorter in cold places. We recommend the following to use the battery pack longer:

— Put the battery pack in a pocket close to your body to warm it up, and insert it in your camera immediately before you start taking shots.

— Use the large capacity battery pack (NP-F550, optional).

- Frequently using the LCD panel or frequently operating the zoom wears out the battery pack faster. We recommend using the large capacity battery pack (NP-F550, optional).
- Be certain to turn the POWER switch to off when not taking shots or playing back on your camera.
- Procure spare batteries that can last two or three times longer than the expected recording time. Also, make a trial recording before you record the actual images.
- Do not expose the battery pack to water. The battery pack is not water-resistant.

Remaining battery time indicator

- If the power goes off although the battery remaining indicator indicates that the battery pack has enough power to operate, charge the battery pack fully again so that the indication on the battery remaining indicator is correct. Note, however, that the correct battery indication sometimes will not be restored if it is used in high temperatures for a long time or left in a fully charged state, or the battery pack is frequently used. Regard the remaining battery time indication as the approximate shooting time.

- The E mark indicating there is little remaining battery time sometimes flashes depending on the operating conditions or ambient temperature and environment even if the remaining battery time is 5 to 10 minutes.

How to store the battery pack





- If the battery pack is not used for a long time, do the following procedure once per year to maintain proper function.
 1. Fully charge the battery.
 2. Discharge on your camera.
 3. Remove the battery from your camera and store it in a dry, cool place.
- To use the battery pack up on your camera, leave the POWER switch to on in PLAY mode until the power goes off without a floppy disk or a "Memory Stick" inserted.

Battery life

- The battery life is limited. Battery capacity decreases little by little as you use it more and more, and as time passes. When the battery operating time is shortened considerably, a probable cause is that the battery pack has reached the end of its life. Please buy a new battery pack.
- The battery life varies according to how it is stored and operating conditions and environment for each battery pack.

Additional Information

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| Symptom | Cause and/or Solution |
|--|--|
| You cannot display a print mark. | • You cannot display print marks on moving images, text images and Clip Motion images. |
| The picture is noisy. | • Your camera is placed near a TV or other equipment that uses strong magnets. t Move your camera away from the TV, etc. |
| The picture is too dark. | • You are shooting a subject with a light source behind the subject. t Adjust the exposure (page 67). • The brightness of the LCD screen is too low. t Adjust the brightness of the LCD screen (page 20). |
| The flash does not work. | • The flash is set to  . t Set the flash to (no indication),  , or  (page 22). • The camera is in one of the following PROGRAM AE modes: Twilight, Twilight plus, or Landscape. t Cancel the PROGRAM AE function or set the flash to  (pages 22, 65). • The PLAY/STILL/MOVIE selector is set to MOVIE. t Set it to STILL. |
| The date and time are recorded incorrectly. | • The date and time are not set correctly. t Set the correct date and time (page 14). |
| Vertical streaks appear when you are shooting a very bright subject. | • This is called the smear phenomenon. t This is not a malfunction. |
| The zoom does not work. | • PROGRAM AE is set to the Panfocus mode. t Cancel the Panfocus mode (page 65). |
| Digital zoom does not work. | • You cannot use digital zoom when recording moving pictures. • Digital zoom is set to [OFF]. t Set digital zoom to [ON] at the menu. |
| The image is in monochrome. | • You shot the image in TEXT mode. t Cancel the TEXT mode (page 62). • The picture effect is set to B&W. t Cancel the B&W mode (page 69). |
| The image cannot be played back on a computer. | t Consult the computer or software manufacturer. |

Additional Information

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Troubleshooting

If you experience trouble with your camera, first check the following items. Should your camera still not operate properly after you have made these checks, consult your Sony dealer or local authorized Sony service facility. **If code displays (CSS :55) appear on the LCD screen, the self-diagnosis display function is working (page 95).**

| Symptom | Cause and/or Solution |
|--------------------------------------|--|
| Your camera does not work. | <ul style="list-style-type: none"> • You are not using an "InfoLITHIUM" battery pack. t Use an "InfoLITHIUM" battery pack (page 9). • The floppy disk is not inserted properly. t Eject the disk, and insert it again (page 16). • The battery level is too low. (The  indicator appears.) t Charge the battery pack fully (page 10). • The AC power adaptor is not connected securely. t Connect it securely to the DC IN jack and a wall outlet (wall socket) (pages 10, 13). • The malfunction occurs inside the camera. t Turn off the power, and turn on after one minute, then check that the camera works properly. |
| Your camera cannot record images. | <ul style="list-style-type: none"> • The PLAY/STILL/MOVIE selector is set to PLAY. t Set it to STILL or MOVIE (pages 18, 23). • No floppy disk is inserted into your camera. t Insert a floppy disk (page 16). • The tab on the disk is set to the unrecordable position. t Set it to the recording position (page 16). • No "Memory Stick" is inserted into your camera. t Insert a "Memory Stick" (page 17). • The write-protect switch on the "Memory Stick" is set to LOCK. t Set it to the recording position. |
| The picture is out of focus. | <ul style="list-style-type: none"> • Your camera is not in macro recording mode when you shoot a subject that is about 3 to 25 cm (1 3/16 to 9 7/8 inches) away from the lens. t Set the macro recording mode (page 64). t Move the zoom lever to the W side. |
| The resizing function does not work. | • You cannot resize moving images, text images, Clip Motion images, and uncompressed images. |

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| Symptom | Cause and/or Solution |
|--|---|
| The moving image breaks off when you play back an image on a computer. | <ul style="list-style-type: none"> • You are playing back the file from the floppy disk or the "Memory Stick." t Copy the file to the hard disk of the computer and then play back the file from the hard disk (page 32). |
| Your camera cannot delete an image. | <ul style="list-style-type: none"> • The image is protected. t Cancel the protection (page 74). |
| The power turns off suddenly. | <ul style="list-style-type: none"> • With the PLAY/STILL/MOVIE selector set to STILL or MOVIE, if you do not operate the camera for about three minutes while the power is on, the camera turns off automatically to prevent wearing down the battery pack. t Turn on the camera. • The battery pack is discharged. t Replace it with a fully charged battery pack. |
| The image does not appear on the TV screen. | <ul style="list-style-type: none"> • The VIDEO OUT setting of your camera is incorrect. t Change the setting (page 55). |
| The slide show function stops automatically. | <ul style="list-style-type: none"> • The slide show function stops after about 20 minutes when using a floppy disk. t To continue the slide show, select [START] again (page 72). |
| You cannot use the PROGRAM AE function. | <ul style="list-style-type: none"> • Your camera is set to TEXT mode or the PLAY/STILL/MOVIE selector is set to MOVIE. t Set the PLAY/STILL/MOVIE selector to STILL and change the setting (pages 53, 54). |
| The macro function does not work. | <ul style="list-style-type: none"> • PROGRAM AE is set to the Panfocus mode. t Cancel the Panfocus mode (page 65). |

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| Symptom | Cause and/or Solution |
|---|--|
| Your computer does not recognize your camera. | <ul style="list-style-type: none"> The battery level is low. <ul style="list-style-type: none"> Use the AC power adaptor (page 13). The camera is turned off. <ul style="list-style-type: none"> Turn on the camera. The USB cable is not connected firmly. <ul style="list-style-type: none"> Disconnect the USB cable, and connect it again firmly. Make sure that "USB MODE" is displayed on the LCD screen (page 30). The USB connectors on your computer are connected to other equipment besides the keyboard, the mouse, and your camera. <ul style="list-style-type: none"> Disconnect the USB cables except for the ones connected to the keyboard, the mouse, and your camera. The position of the MS/FD selector is not set to the proper position for the media being used. <ul style="list-style-type: none"> Set the MS/FD selector to the proper position. The USB driver is not installed. <ul style="list-style-type: none"> Install the USB driver (page 29). For Windows 98, Windows 98SE, Windows 2000 and Windows Me users Since the camera is connected to a computer using the USB cable before installing the USB driver, the drive is not recognized properly by the computer. <ul style="list-style-type: none"> Delete the drive which is not recognized properly, then install the USB driver. For details, see the procedure on page 33. |

Additional Information

| Battery packs | |
|-------------------------------------|--|
| Symptom | Cause and/or Solution |
| The battery pack cannot be charged. | <ul style="list-style-type: none"> The power of the camera is turned on. <ul style="list-style-type: none"> Turn off the power of the camera (page 10). |
| The battery life is short. | <ul style="list-style-type: none"> You are recording/playing back images under extremely cold temperatures. The battery pack is not charged enough. <ul style="list-style-type: none"> Charge the battery pack fully. The battery pack is dead. <ul style="list-style-type: none"> Replace the battery pack with a new one. |

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| Symptom | Cause and/or Solution |
|--|--|
| The indication of the battery remaining time is not proper, or the power is immediately turned off even if the battery remaining indicator indicates that the battery level is sufficient. | <ul style="list-style-type: none"> You are using the camera for many hours under extremely hot or cold temperatures. The battery pack is dead. <ul style="list-style-type: none"> Replace the battery pack with a new one (page 9). The battery level is too low. <ul style="list-style-type: none"> Install the fully charged battery pack (pages 9, 10). A deviation has occurred in the remaining battery time. <ul style="list-style-type: none"> Charge the battery pack fully (page 10). |
| The POWER ON/OFF (CHG) lamp flashes when charging a battery pack. | <ul style="list-style-type: none"> A malfunction has occurred in the battery pack. <ul style="list-style-type: none"> Contact your Sony dealer or local authorized Sony service facility. |
| The POWER ON/OFF (CHG) lamp does not light up when charging a battery pack. | <ul style="list-style-type: none"> The AC power adaptor is not connected. <ul style="list-style-type: none"> Connect the power cord firmly to a wall outlet (wall socket) (page 10). The battery pack is not installed properly. <ul style="list-style-type: none"> Install it properly (page 9). Charging of the battery pack is complete. |


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Warning and notice messages

Various messages appear on the LCD screen. Check the corresponding descriptions in the following list.

| Message | Meaning |
|---------------------|---|
| DRIVE ERROR | There is trouble with the disk drive. |
| SYSTEM ERROR | Turn the power off and on again. |
| NO DISK | No disk is inserted. |
| NO MEMORY STICK | No "Memory Stick" is inserted. |
| FORMAT ERROR | <ul style="list-style-type: none"> The floppy disk loaded is not MS-DOS formatted (512 bytes × 18 sectors). Failed to format the "Memory Stick." The Floppy Disk Adaptor for Memory Stick is inserted. |
| MEMORY STICK ERROR | The inserted "Memory Stick" cannot be used with your camera, or the "Memory Stick" is damaged or not inserted correctly. |
| DISK PROTECT | The tab on the disk is set to the unrecordable position. |
| MEMORY STICK LOCKED | The write-protect switch on the "Memory Stick" is set to the LOCK position. |
| DISK FULL | The disk is full. |
| NO MEMORY SPACE | The capacity of the "Memory Stick" is not sufficient to record images. |
| NO FILE | No image is recorded in a floppy disk or a "Memory Stick." |
| FILE ERROR | Trouble has occurred during playback. |
| FILE PROTECT | The image is protected. |
| DISK ERROR | A 2DD floppy disk is inserted, or there is trouble with the disk. |
| DIRECTORY ERROR | A directory with the same name already exists. |
| NOT ENOUGH MEMORY | The remaining capacity of the floppy disk or the "Memory Stick" is not enough to copy the image. |

Additional Information

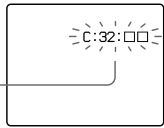
| Message | Meaning |
|---|---|
| IMAGE SIZE OVER | You tried to play back images with an image size larger than the maximum playback size of this camera. |
| INVALID OPERATION | You are playing back a file that was created on equipment other than your camera. |
| for "InfoLITHIUM" battery only | The battery is not the "InfoLITHIUM" type. |
| - | The image is protected. |
|  | The battery level is too low. When the remaining time is about 5 to 10 minutes, E may flash depending on the battery pack used, operating conditions, or the environment. |

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Self-diagnosis display

Your camera has a self-diagnosis display. This function displays the camera condition on the LCD screen with a combination of a letter and four digits of numbers. If this appears, check the following code chart. The code informs you of the camera's current condition. The last two digits (indicated by SS) will differ depending on the state of the camera.



Self-diagnosis display

- C:SS :SS
You can correct the problem by yourself.
- E:SS :SS
Contact your Sony dealer or local authorized Sony service facility.

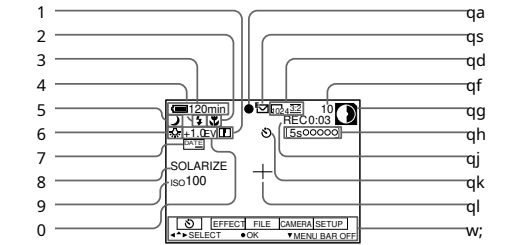
| Code | Cause and/or Corrective Action |
|--------------------|---|
| C:32:SS | <ul style="list-style-type: none">• There is trouble with the disk drive. t Turn the power off and on again. |
| C:13:SS | <ul style="list-style-type: none">• An unformatted floppy disk or "Memory Stick" is inserted. t Format the floppy disk or the "Memory Stick." (page 81)• A floppy disk or a "Memory Stick" not compatible with this camera is inserted. t Change the floppy disk or the "Memory Stick." (pages 16, 17) |
| E:61:SS E:91:SS | <ul style="list-style-type: none">• A camera malfunction that you cannot repair has occurred. t Contact your Sony dealer or local authorized Sony service facility and inform them of the 5-digit indication. (example: E:61:10) |

If you are unable to rectify the problem even if you try corrective actions a few times when C:SS :SS is indicated, contact your Sony dealer or local authorized Sony service facility.

Additional information

LCD screen indicators

The indicators during recording



- A Sharpness indicator

B Focus mode indicator/Macro indicator

C Battery remaining indicator

D Flash level indicator/Flash mode indicator

E PROGRAM AE indicator/Zoom indicator

F White balance indicator

G DATE/TIME indicator

H Picture effect indicator

I ISO film speed indicator

J EV level indicator

K AE/AF lock indicator

L Recording mode/Clip Motion indicator

M Image size indicator

N Number of recorded images
- O Remaining disk capacity/Remaining memory capacity indicator

q: Floppy disk

q: "Memory Stick"

P Recording time indicator

Q Self-diagnosis function indicator/Recording time indicator

R Self-timer indicator

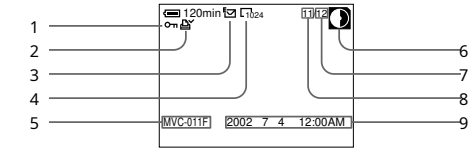
S Spot light-metering indicator

T Menu bar and guide menu

They appear by pressing V on the control button and disappear by pressing V.

Additional information

The indicators during still image playback



- A Protect indicator/Zoom scaling indicator

B Print mark indicator

C Recording mode/Clip Motion indicator

D Image size indicator

E File name*

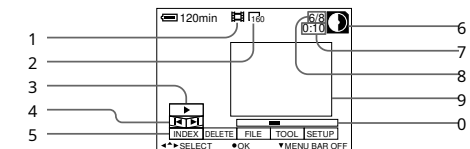
F Remaining disk capacity/Remaining memory capacity indicator
- G Number of stored images on a floppy disk or a "Memory Stick"

H Image number

I Recording date of the playback image*

* When the menu bar is displayed, this indicator disappears from the screen.

The indicators during moving image playback



- A Moving image file indicator

B Image size indicator

C Playback button/pause button

B is displayed during stop, and X during playback.

D Image searching buttons

E Menu bar and guide menu
- F Remaining disk capacity/Remaining memory capacity indicator

q: Floppy disk

q: "Memory Stick"

G Counter

H Image number/number of stored images on a floppy disk or a "Memory Stick"

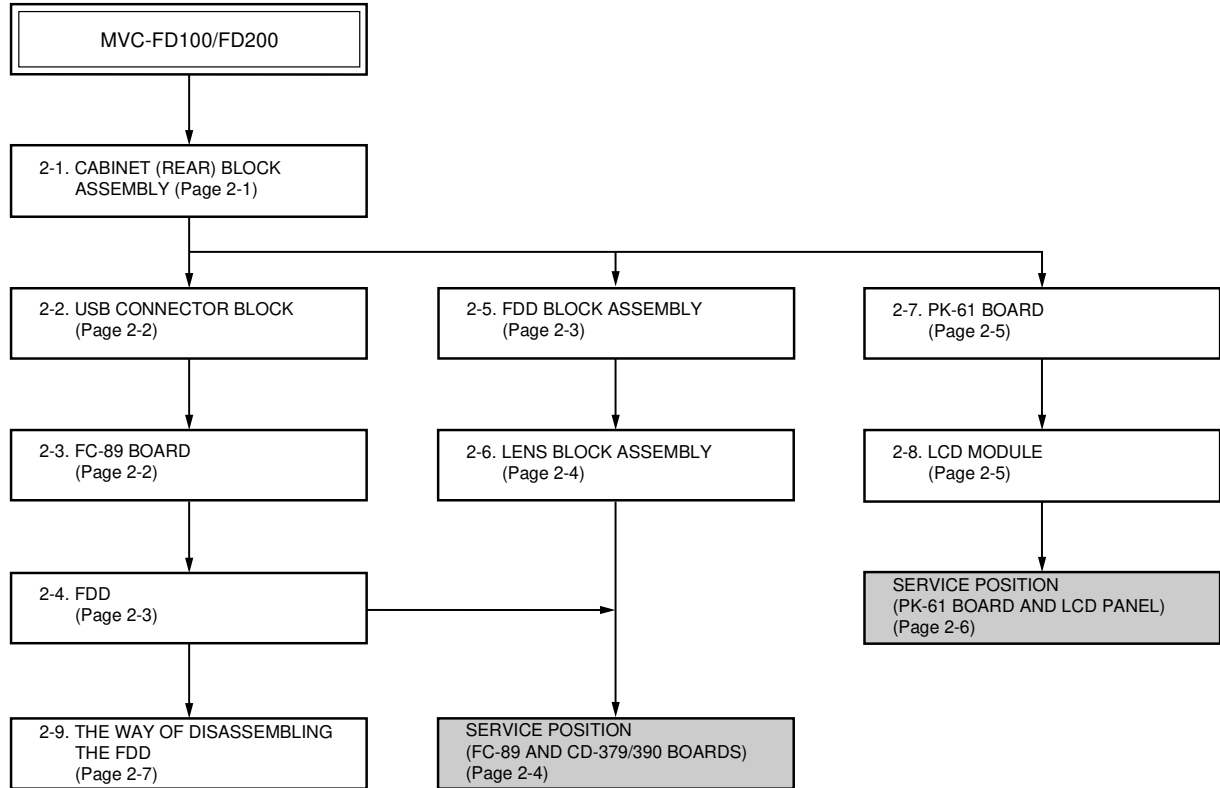
I Playback image

J Playback bar

MVC-FD100/FD100H/FD200/FD200H

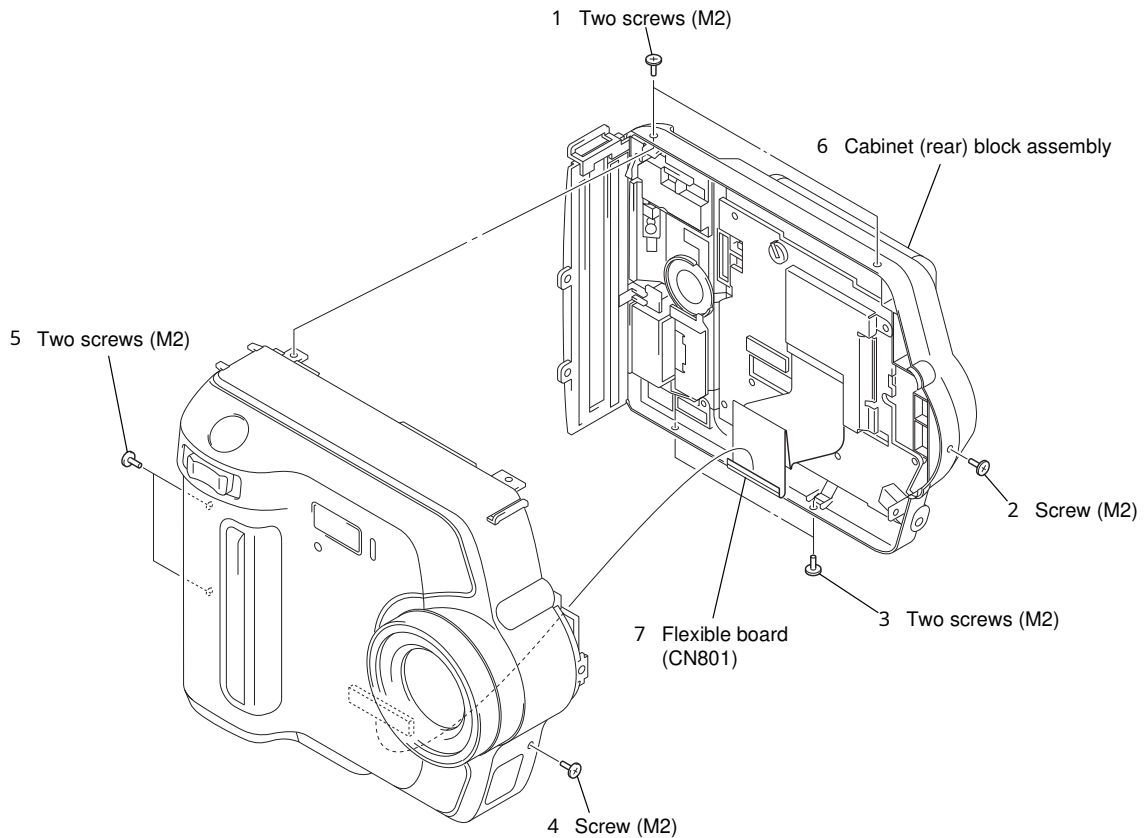
SECTION 2 DISASSEMBLY

- This set can be disassembled in the order shown below.

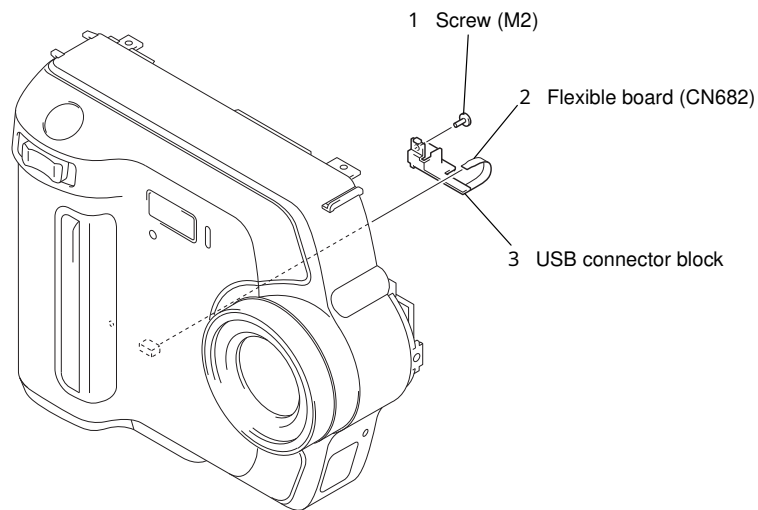


Note: Follow the disassembly procedure in the numerical order given.

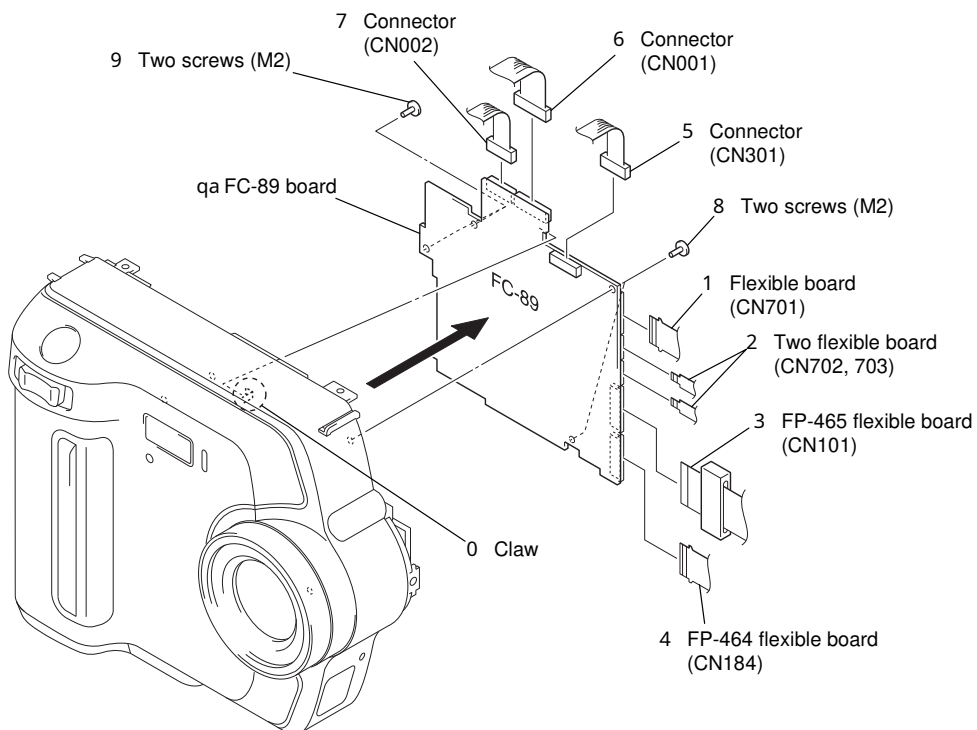
2-1. CABINET (REAR) BLOCK ASSEMBLY



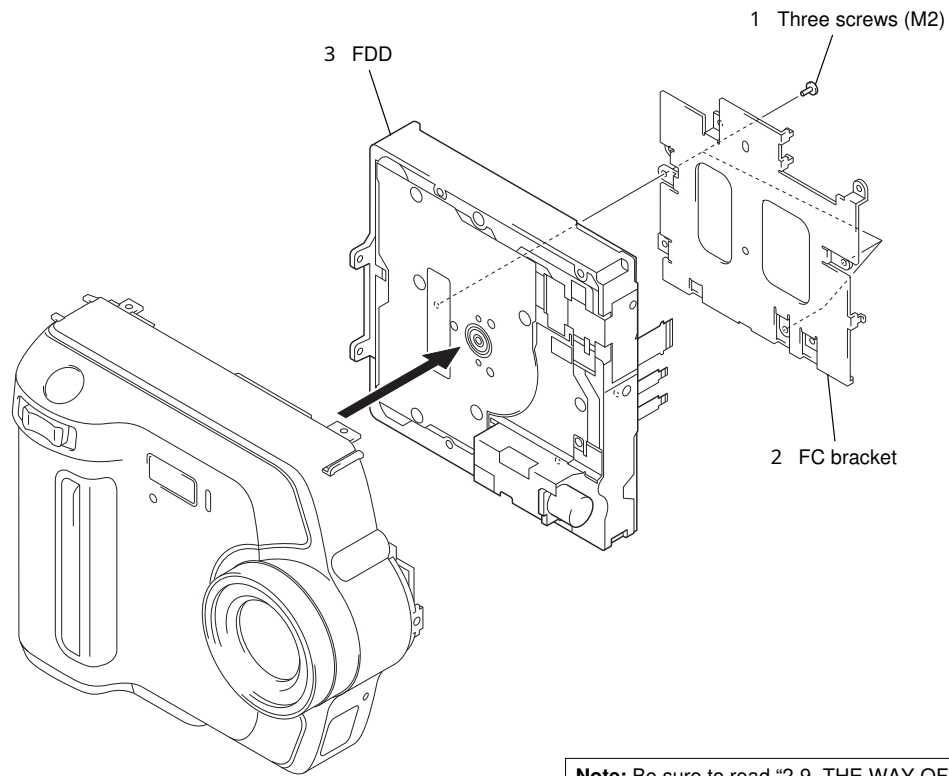
2-2. USB CONNECTOR BLOCK



2-3. FC-89 BOARD

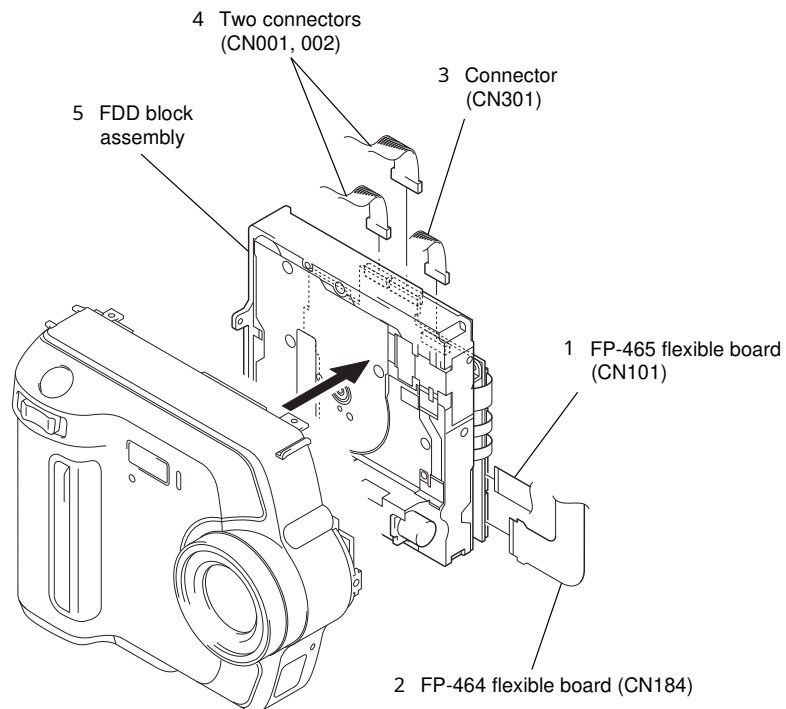


2-4. FDD

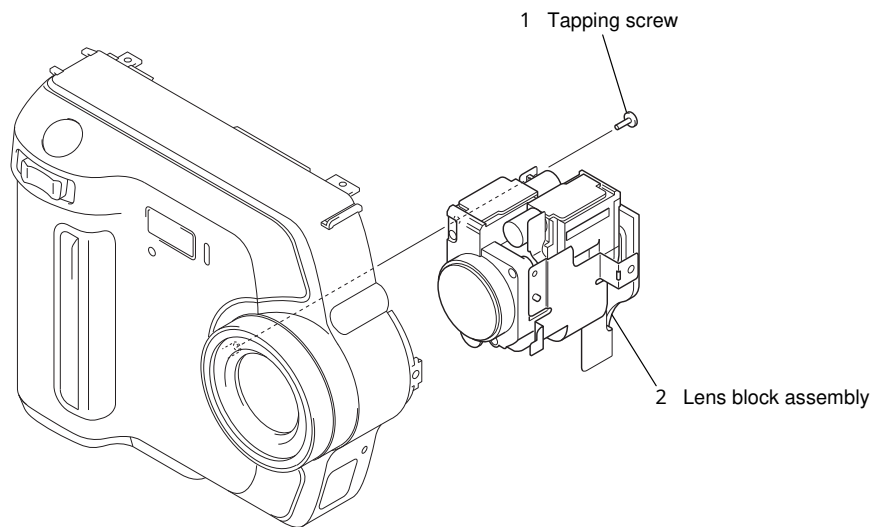


Note: Be sure to read "2-9. THE WAY OF DISASSEMBLING THE FDD" on page 2-7 when disassembling the FDD.

2-5. FDD BLOCK ASSEMBLY

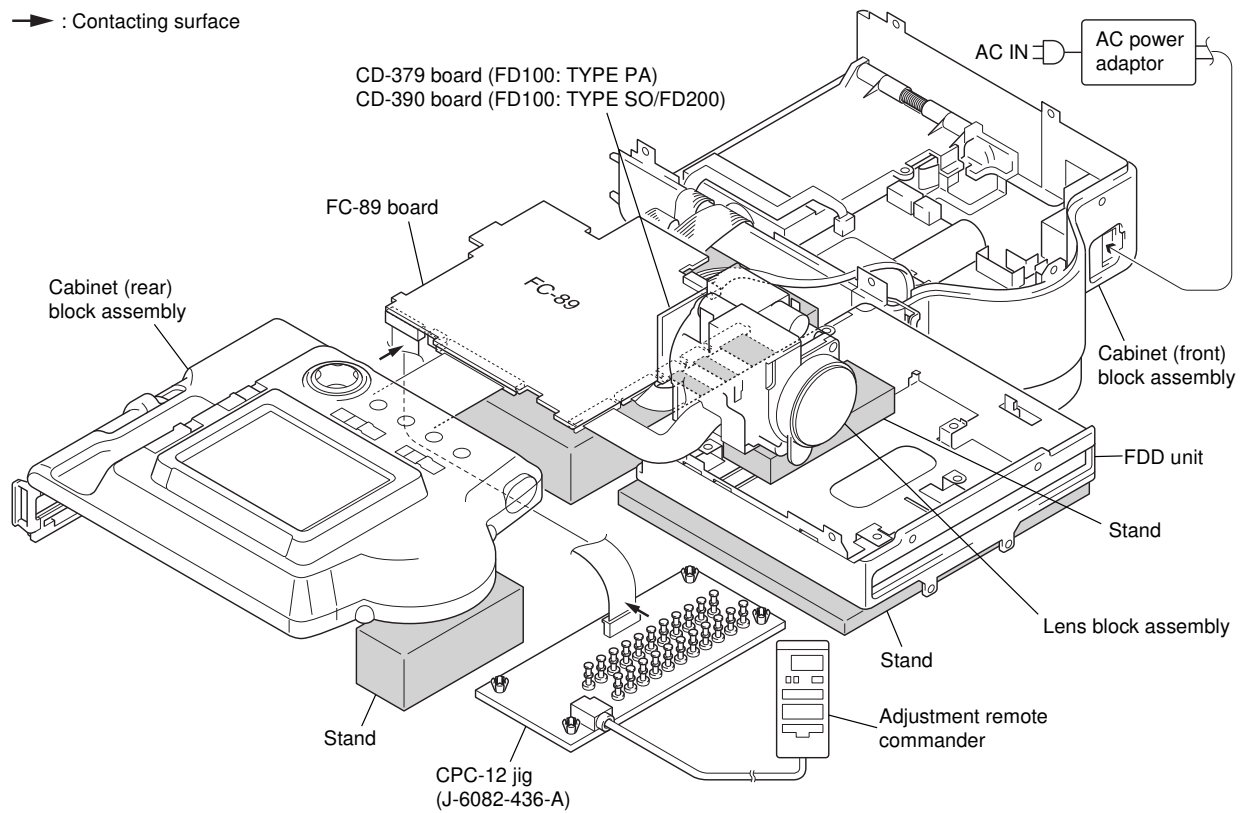


2-6. LENS BLOCK ASSEMBLY

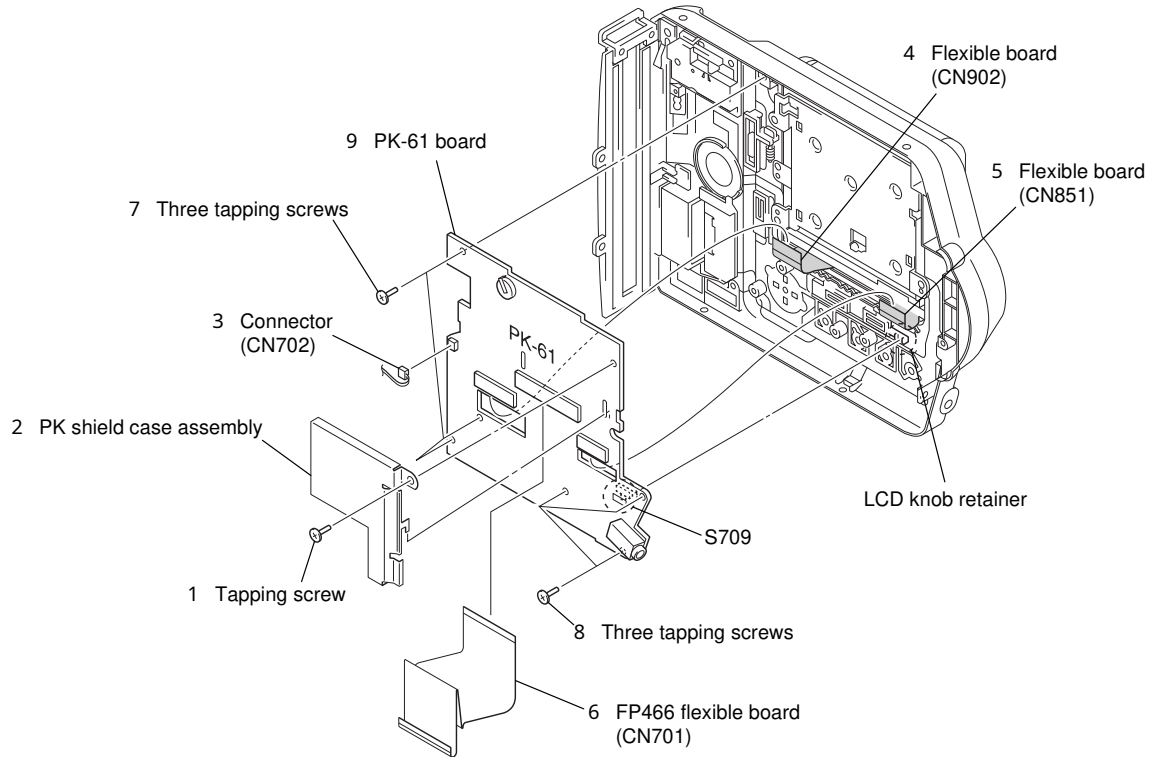


[SERVICE POSITION (FC-89 BOARD AND CD-379/390 BOARDS)]

→ : Contacting surface

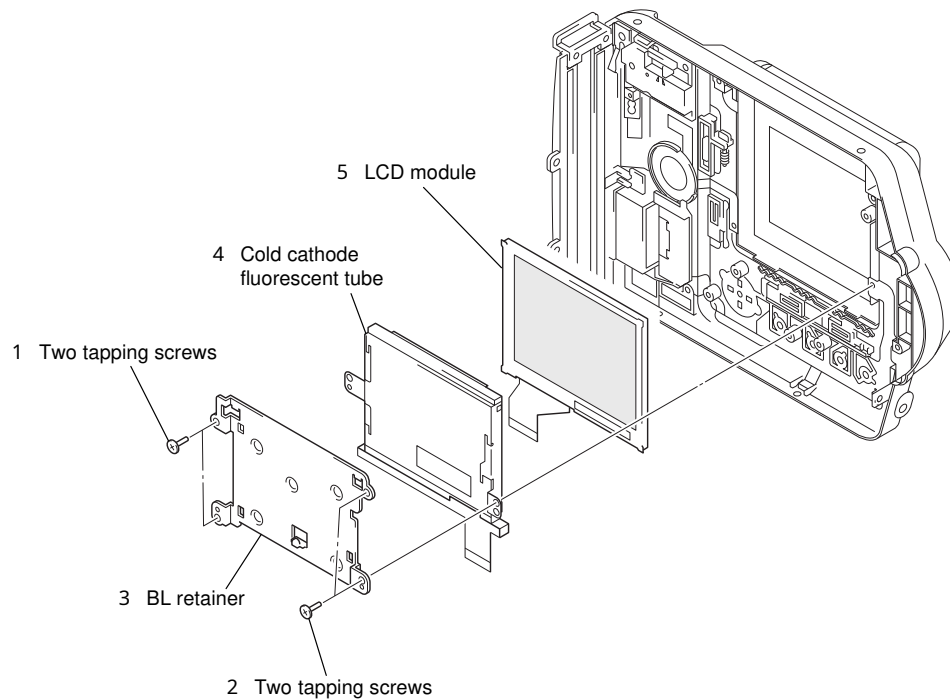


2-7. PK-61 BOARD

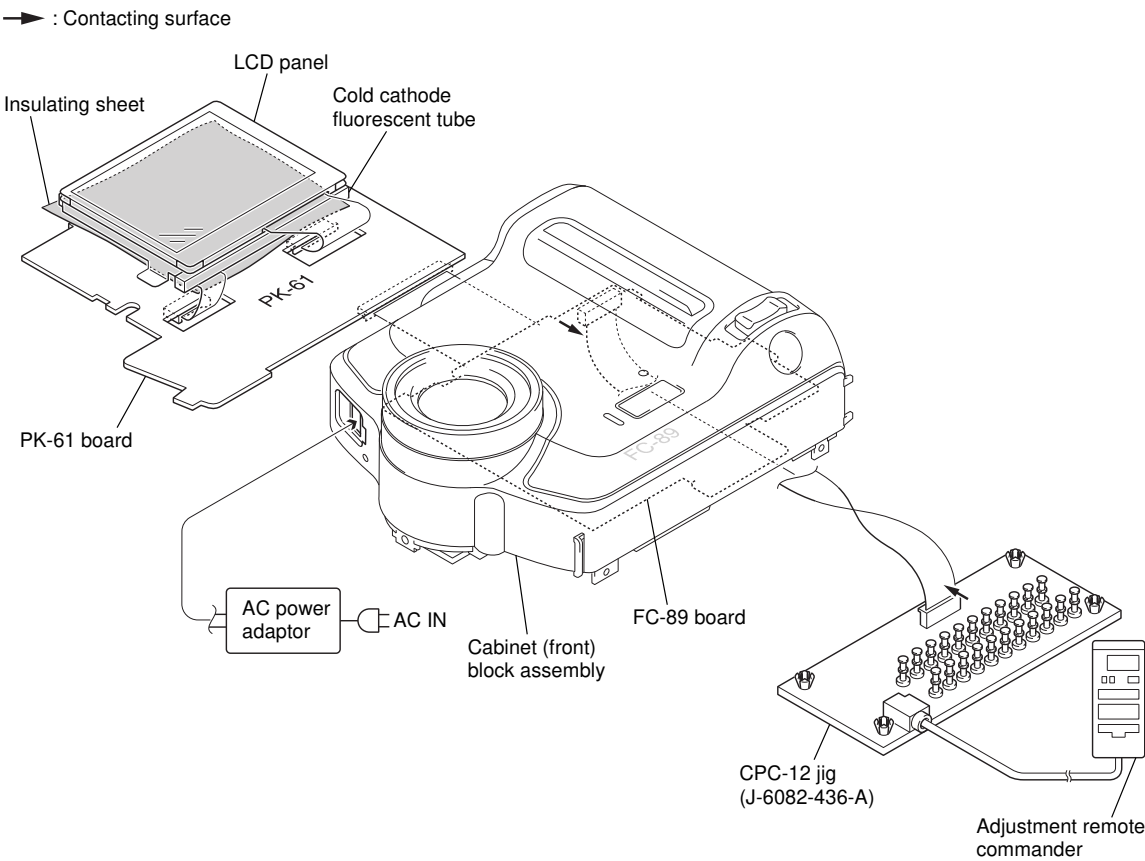


Note: When installing PK-61 board, connect S709 with LCD knob retainer.

2-8. LCD MODULE

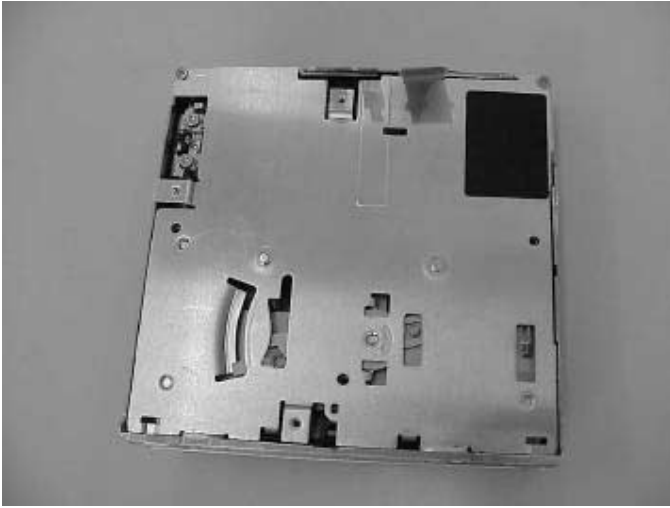


[SERVICE POSITION (PK-61 BOARD AND LCD PANEL)]

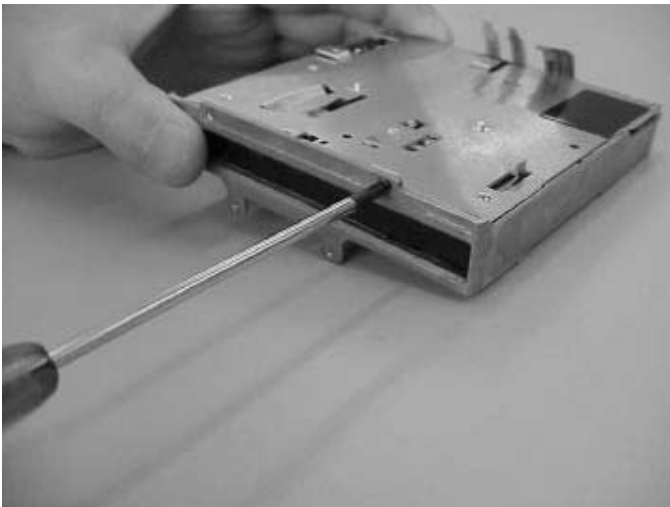


2-9. THE WAY OF DISASSEMBLING THE FDD

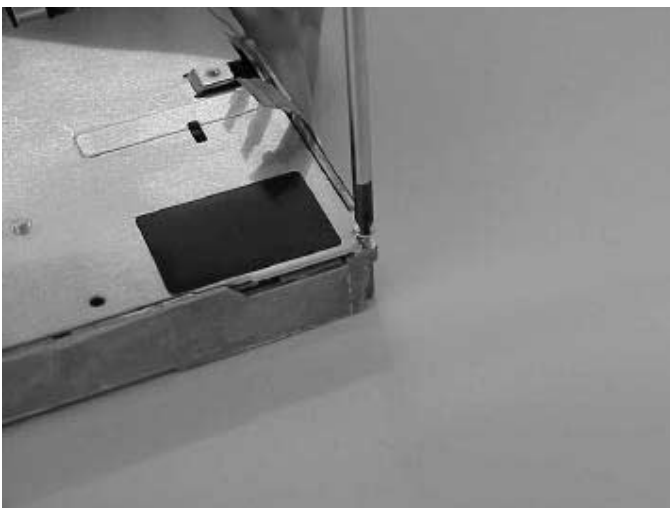
Disassembling the FD-02H



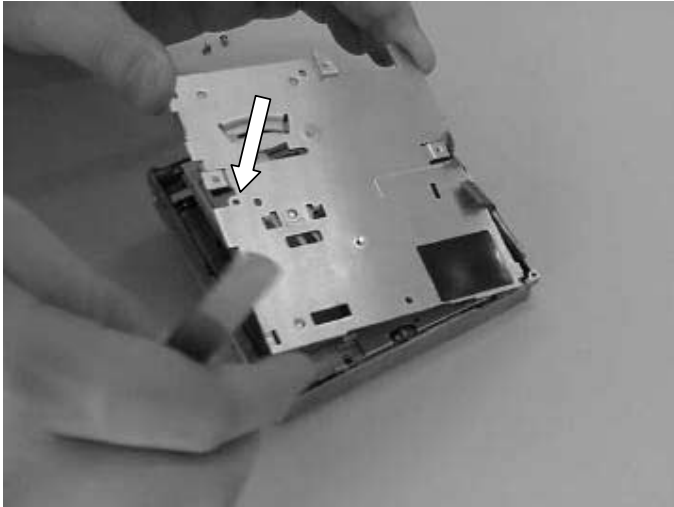
(1) [Entire view before starting disassembling]



(2) [Removing the top cover]
Remove the 2 screws from the front and the rear respectively, totaling 4 screws. Start removing the 2 screws from the front.



(3) [Removing the top cover]
Then remove the 2 screws from the rear.

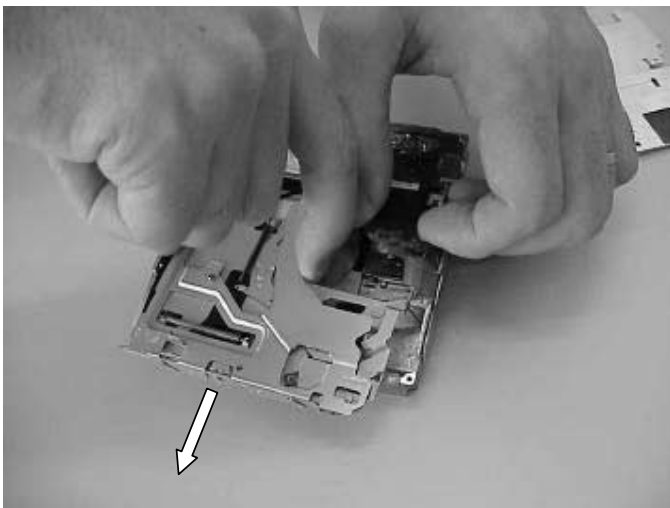


(4) [Removing the top cover]

Caution: The spring of the door of the disk insertion slot is engaged with the top cover. Be careful not to lose the spring when removing the top cover.



(5) [The view after the top cover is removed]

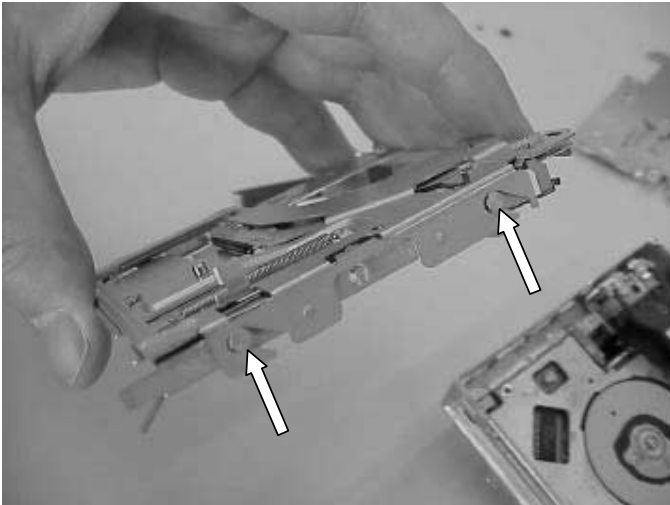


(6) [Removing the cassette compartment]

How to remove the cassette compartment: Hold the head arm of the side-1 with fingertips and raise it upward.

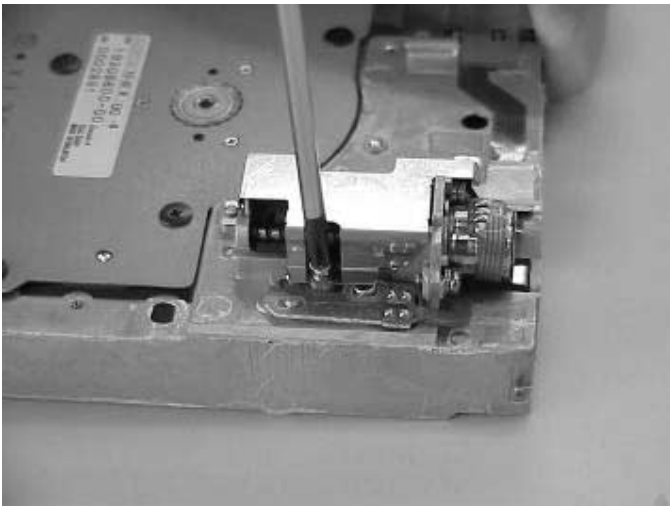
Hold the cassette compartment and raise it in the slant angle as shown by the arrow in the picture.

Caution: When raising the head arm, apply the holding force in the direction of up/down only. Never apply any force in the direction of right/left as shown in the picture. When removing the cassette compartment, be careful not hit or damage the head tip with the cassette compartment. Be careful not to raise the head arm too high. (Raising the head arm too high, deforms the spring that is inserted in the head arm.)



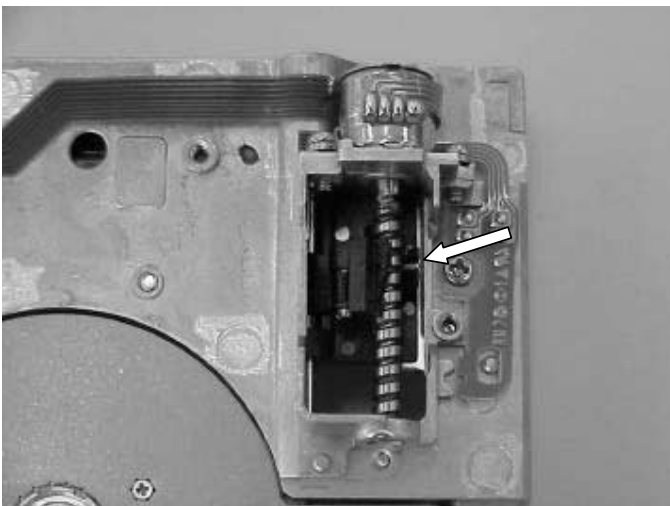
(7) [Cassette compartment]

The 2 pins are inserted in only an end of cassette compartment. So, be careful not lose the 2 pins.



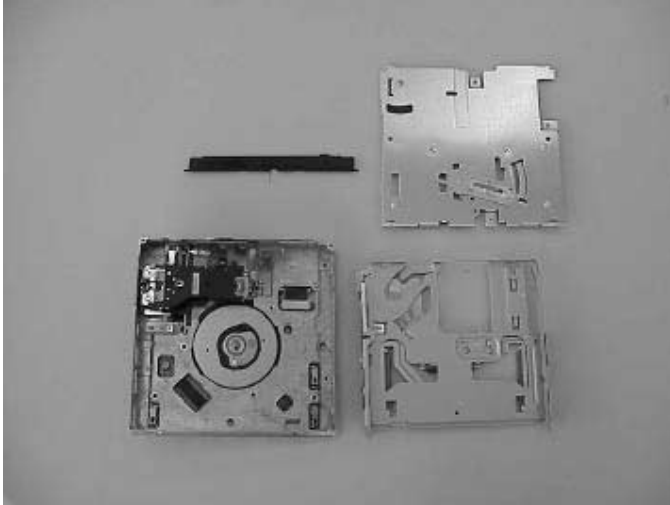
(8) [Checking foreign material in the transport motor]

Remove the transport motor cover (on the rear of the FDD). The transport motor cover is fixed by the 2 screws. Because the recess the screw is small and the screw is fastened into the aluminum chassis, be careful not to damage the recess.



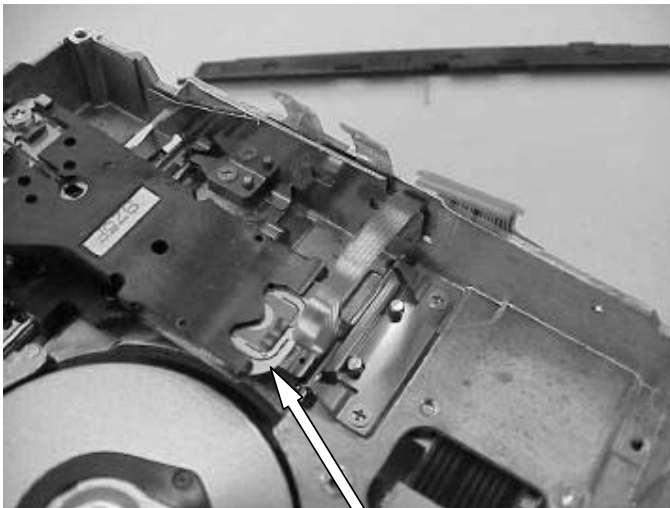
(9) [Checking foreign material in the transport motor]

Caution: Check to see that there is no foreign material in the transport motor. Check also that an end of the torsion coil spring is engaged with the lead screw as shown.



(10) [After completion of
disassembling]

Check that any foreign materials exist
inside the machine. Check that the
cover is not deformed. Check that the
cassette compartment is not
deformed.



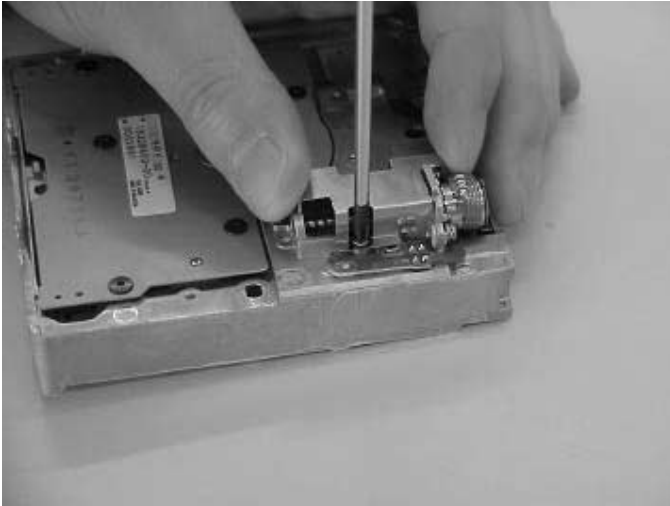
(11) [After completion of
disassembling]

Check to see that the flexible board
has no scar.

Check that the flexible board is not
folded and not twisted. Check also
that the gimbal is not deformed.
Check that the head tip is not peeled
off.

Gimbal

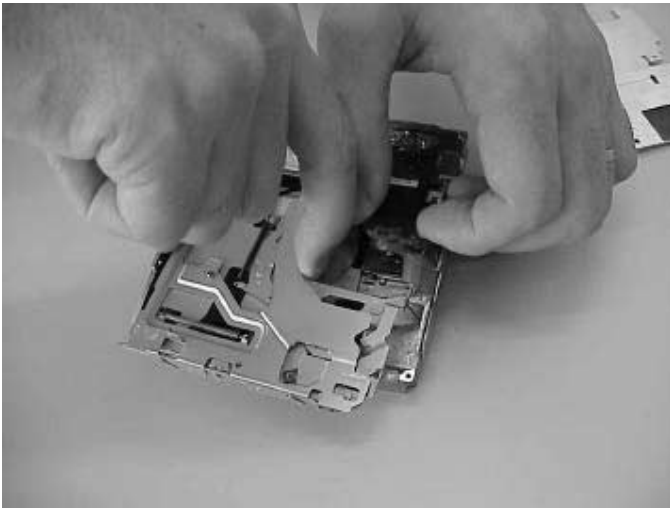
Reassembling the FD-02H



(12) [Reassembling]

Attach the transport motor cover.

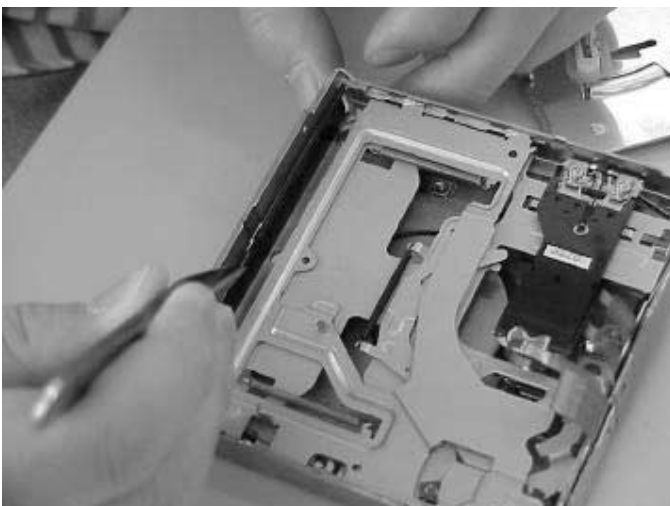
Tightening torque: $1\text{kgf}\cdot\text{cm}\pm 10\%$



(13) [Attaching the cassette compartment]

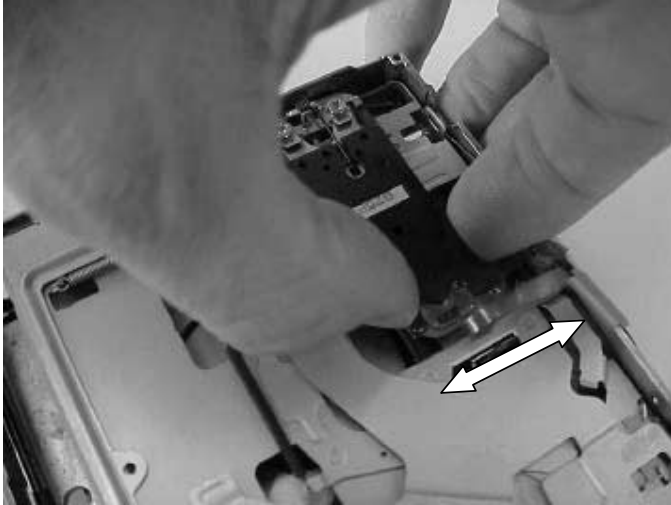
Raise the head arm and insert the cassette compartment in a slant angle.

Because there are POM supporting studs (not visible in the picture shown) beneath the head arm, the cassette compartment must override exceeding the studs.



(14) [Attaching the door]

Attach the door spring to the shaft in the center of the door and insert the shafts at the both ends of the door into the grooves of the chassis.



(15) [Method of raising the head arm]

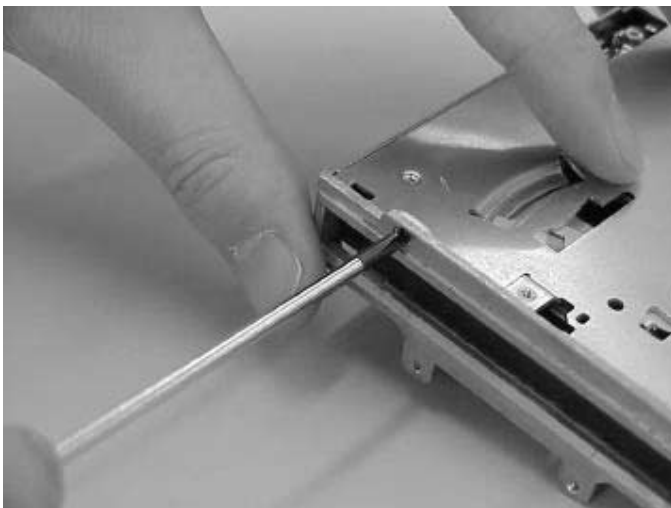
Caution: Apply force in the up/down direction only,
Never apply force in the direction shown by the arrow in the picture.



(16) [Correct position of the flexible board]

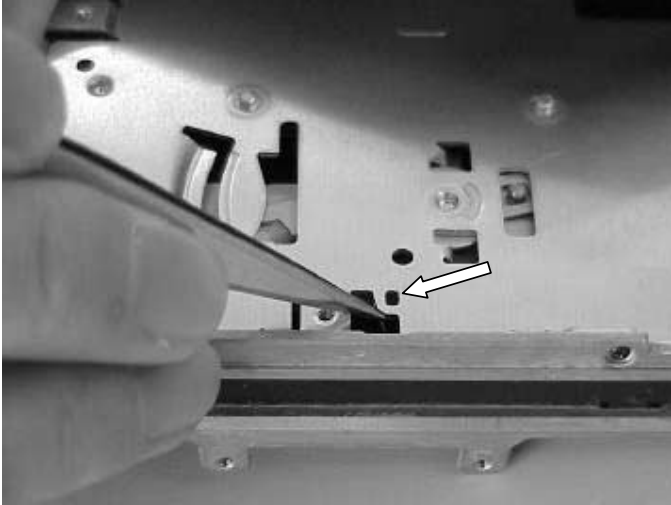
Be sure that the flexible board is placed on top of the cassette compartment. (As shown in the arrow in the picture.)

Be sure that the flexible board is not twisted.



(17) [Attaching the top cover]

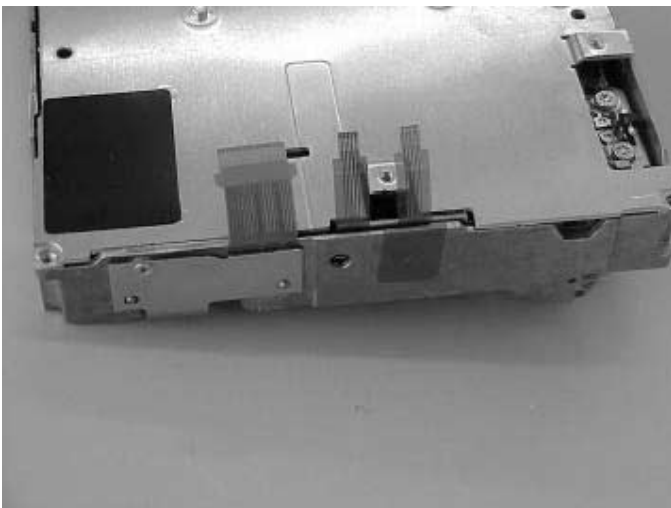
Start attaching the screws to the front.
Tightening torque: $1\text{kg}\cdot\text{cm}\pm 10\%$
Refer to the separate document "Top Cover Attachment SOP".



(18) [Attaching the door spring]
Insert an end of the spring into the hole of the top cover. (Hole that is shown in the picture)



(19) [Confirming the coupling of top cover and cassette compartment]
Confirm that the hole of the cover is engaged with the shaft on the cassette compartment.



(20) [Checking the flexible boards]
Check that the 3 flexible boards are coming out. Check that the 3 flexible cards are free from scars and are not damaged.

[Notes when attaching the top cover]

1. Be careful not touch the grease that is coated at the 8 locations as shown below.

8 locations

2. When attaching the top cover to a drive, be careful that the FPC of S1 must not be caught into the drive. Observe that the FPC of S1 must not be caught into the drive, by observing the position of FPC through the hole of the top cover as shown below. Also be careful that the 6-pin FPC must not be caught into a drive at the same time.

OK

NG

OK

This line of the top cover is a guideline.

The 6-pin FPC must not be caught into a drive

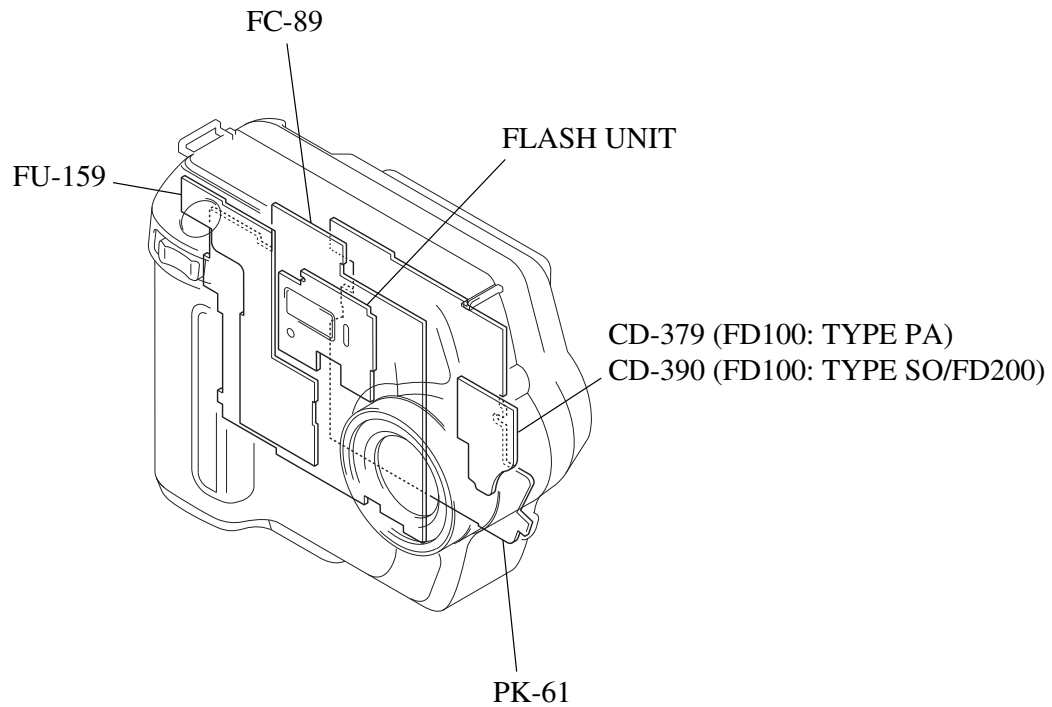
3. Be sure not to forget to engage an end of the shutter spring in this hole.

The hole in which an end of the shutter spring is engaged.

4. When tightening the screws, there is an order tightening the screws. Follow the order as shown below.
(Tightening torque: $9.8\text{N}\cdot\text{cm}$ ($1.0\text{kg}\cdot\text{cm}$) $\pm 10\%$)

1 2 3 4

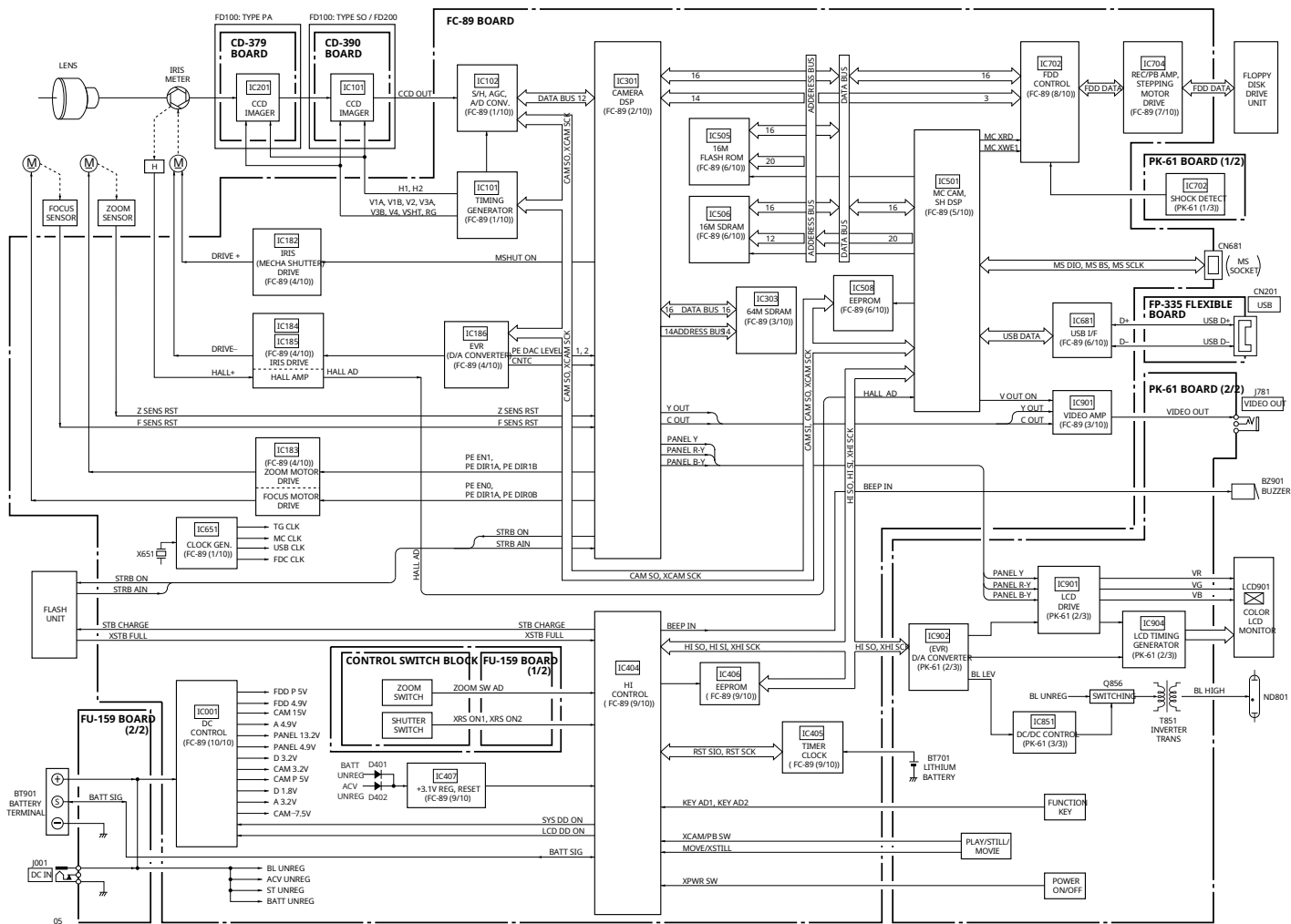
2-10. CIRCUIT BOARDS LOCATION



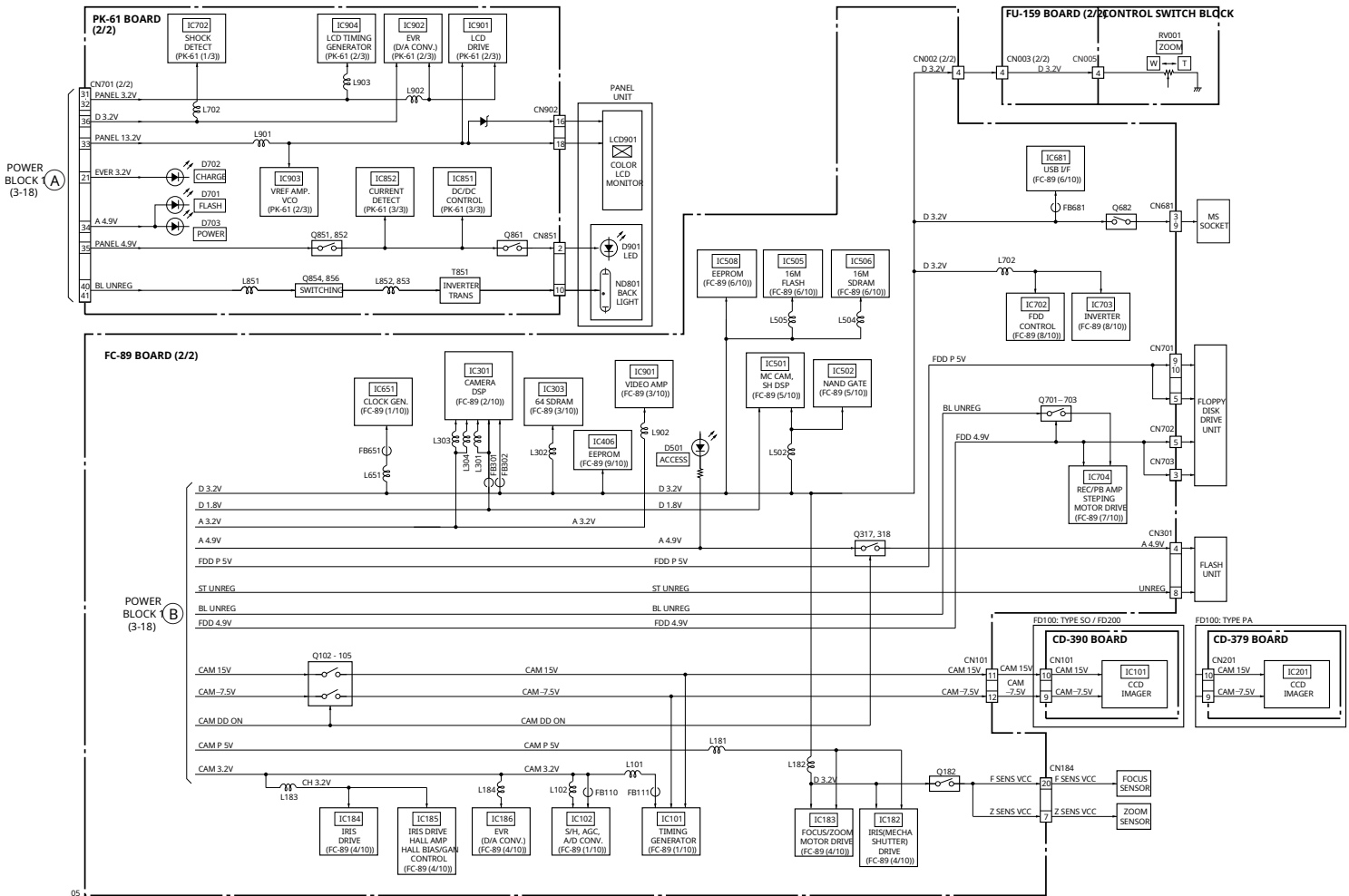
| Board Name | Function |
|------------|--|
| CD-379 | CCD IMAGER |
| CD-390 | |
| FC-89 | CAMERA PROCESS, CAMERA DSP, VIDEO, MEMORY, LENS DRIVE, SH DSP, USB I/F, MS SOCKET, FDD INTERFACE, FDD CONTROL, HI CONTROL, DC/DC CONVERTER |
| FU-159 | DC IN |
| PK-61 | MODE SWITCH, VIDEO OUT, LCD DRIVE, TIMING GENERATOR, BACK LIGHT DRIVE |

SECTION 3 BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM



3-10. POWER BLOCK DIAGRAM 2



SECTION 4

(For printed wiring boards)

-

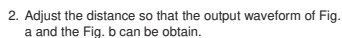
(For schematic diagrams)

- Some chip part will be indicated as follows:
- | Example | C541
22U
<u>TA</u> <u>A</u> | L452
10UH
<u>2520</u> |
|-----------------------------|-----------------------------------|-----------------------------|
| Kinds of capacitor | | |
| Temperature characteristics | | |
| External dimensions (mm) | | |

Note : The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified.

(Measuring conditions voltage and waveform)

- ## 1. Connection

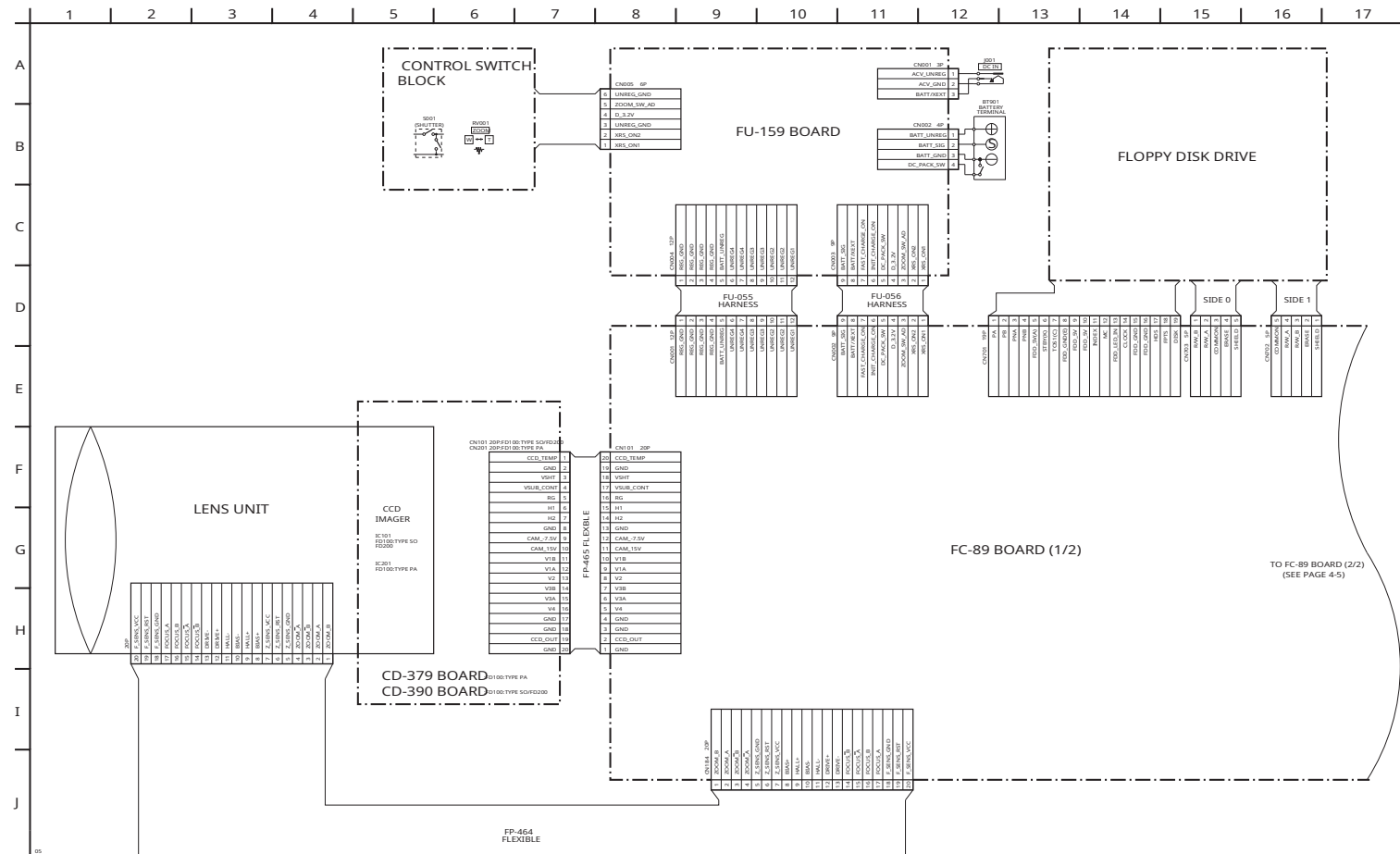


Note : Les composants identifiés par une marque 0 sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

MVC-FD100/FD100H/FD200/FD200H

4-1. FRAME SCHEMATIC DIAGRAMS

FRAME SCHEMATIC DIAGRAM (1/2)





4-2. SCHEMATIC DIAGRAMS

CD-379 BOARD
(MVC-FD100:TYPE PA MODEL)
CCD IMAGER
XX MARK:NO MOUNT
R:REC MODE
P:PB MODE

FC-89 BOARD (1/10)
CN101
(THROUGH THE
FP-465 FLEXIBLE /
(SEE PAGE 4-11))

SIGNAL PATH

| | |
|-----------------|-----|
| VIDEO SIGNAL | |
| Y/CHROMA | |
| REC | ➡➡➡ |

IC201
CCD IMAGER
IC201
MN39742PTJ-S

Q201
25C4178-F13F14-T1
BUFFER

Q202
UN2213-(KB)50
SWITCH

R201 20P
R202 10K
R203 10K
R204 10K
R205 10K
R206 10K
R207 10K
R208 10K
R209 10K
R210 10K

C201 1u
C202 33u
C203 22u
C204 0.01u
C205 0.01u
C206 0.01u
C207 0.1u
C208 0.1u
C209 10p
C210 0.1u
C211 0.1u
C212 0.1u
C213 0.1u

D201
MA111-(KB)50

L201
10uH

TH201

CL201
XX

CL202

FB201
10K

FB202

FB203

FB204

FB205

FB206

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- The CD-379 board mounted as a repair part is not equipped with a CCD imager.
When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

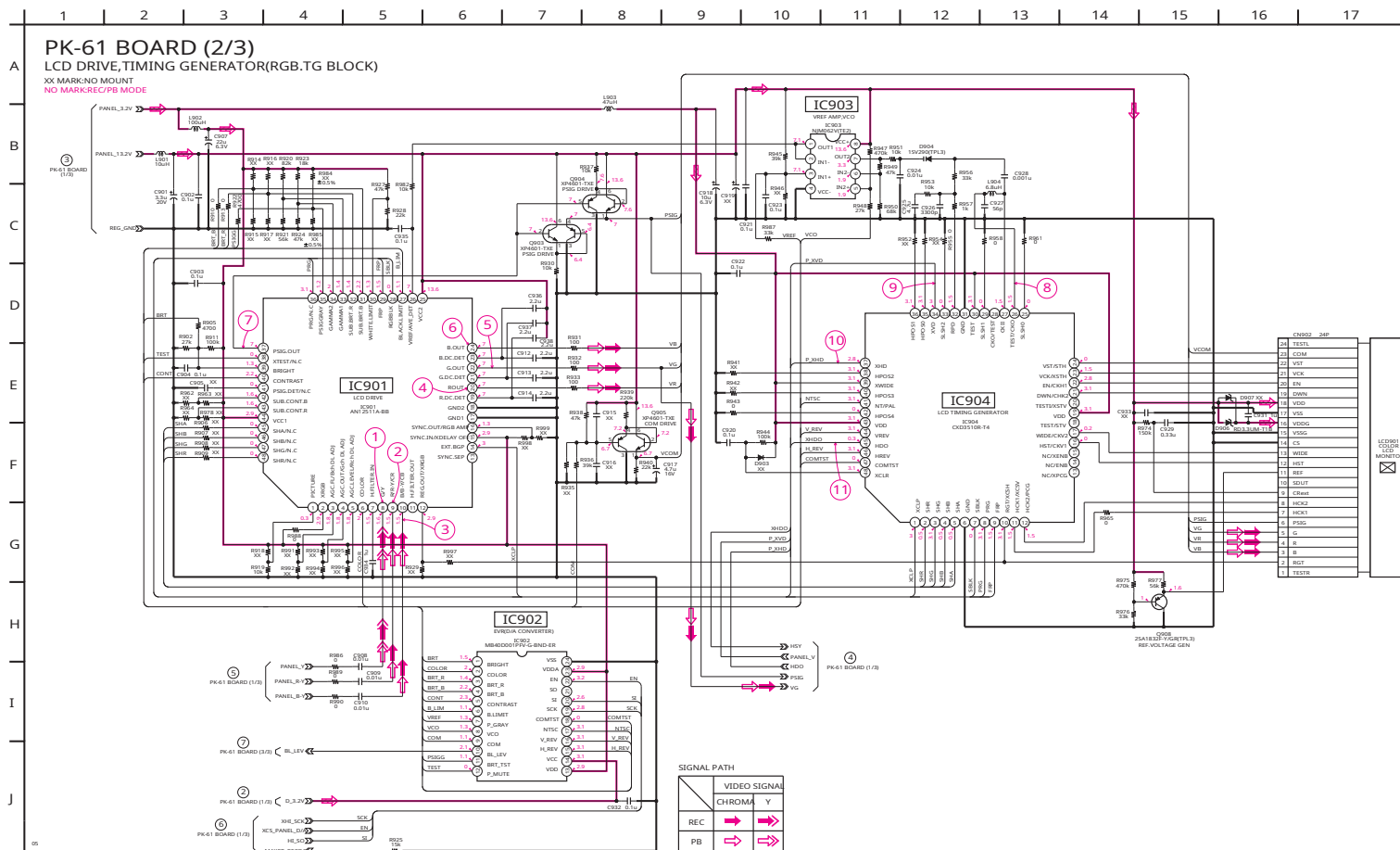
4-10



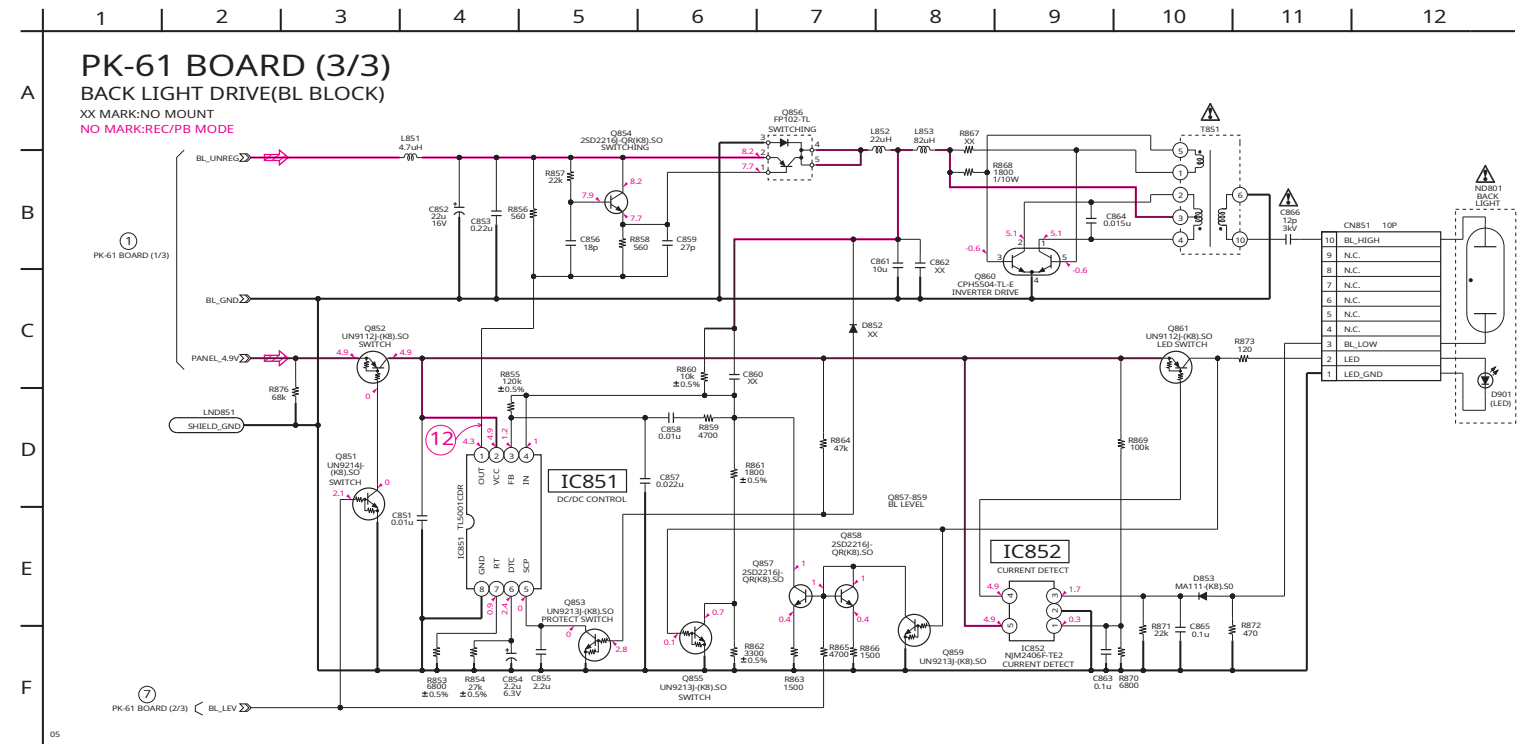
4-31



PK-61 (LCD DRIVE, TIMING GENERATOR) SCHEMATIC DIAGRAM • See page 4-47 for PK-61 printed wiring board. • See page 4-56, 57 for waveforms.



PK-61 (BACK LIGHT DRIVE) SCHEMATIC DIAGRAM • See page 4-47 for PK-61 printed wiring board. • See page 4-57 for waveform.




The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified.

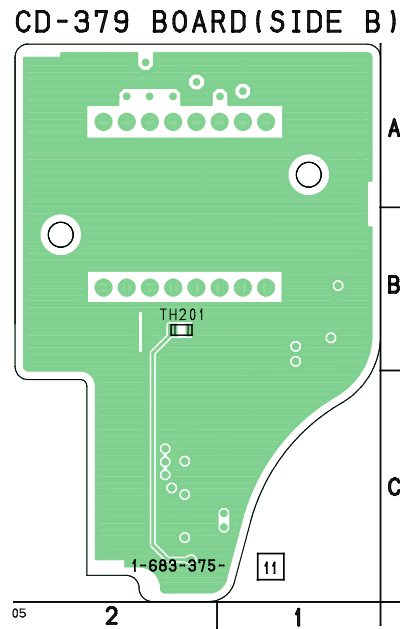
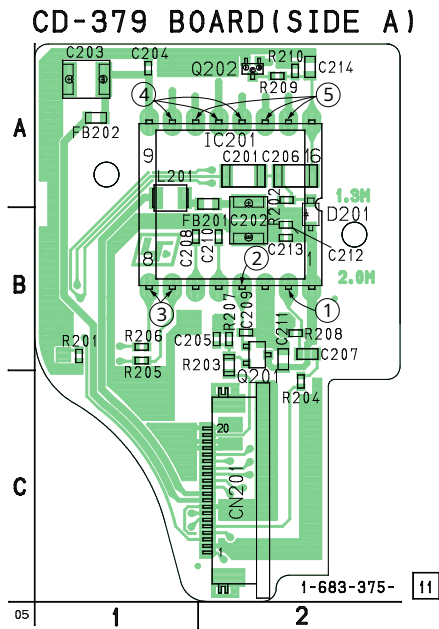
Les composants identifiés par une marque 0 sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MVC-FD100/FD100H/FD200/FD200H


4-3. PRINTED WIRING BOARDS

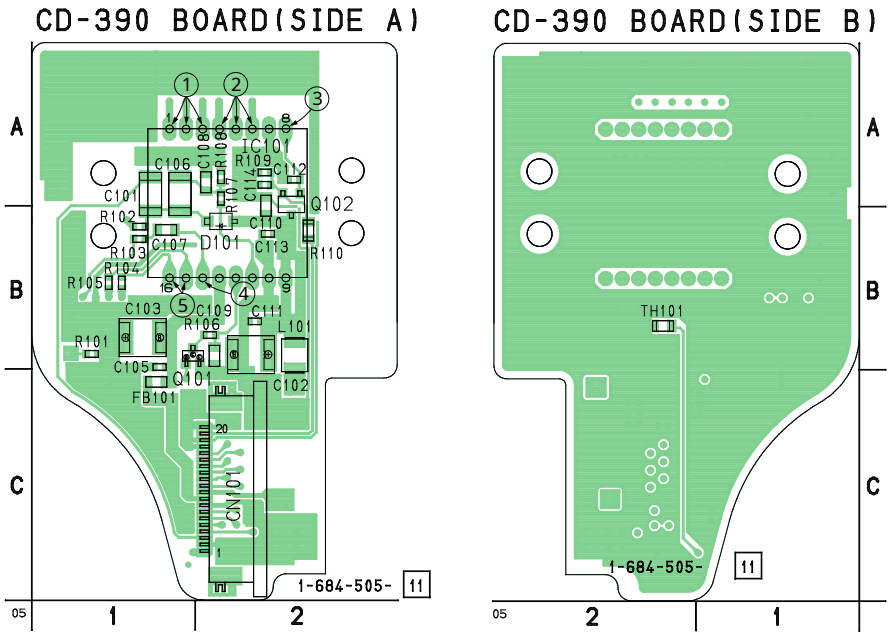
CD-379 (CCD IMAGER) PRINTED WIRING BOARD

- For Printed Wiring Board.
-  : Uses unleaded solder.
- CD-379 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- There are a few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-58 for printed parts location.
- Chip transistor




CD-390 (CCD IMAGER) PRINTED WIRING BOARD

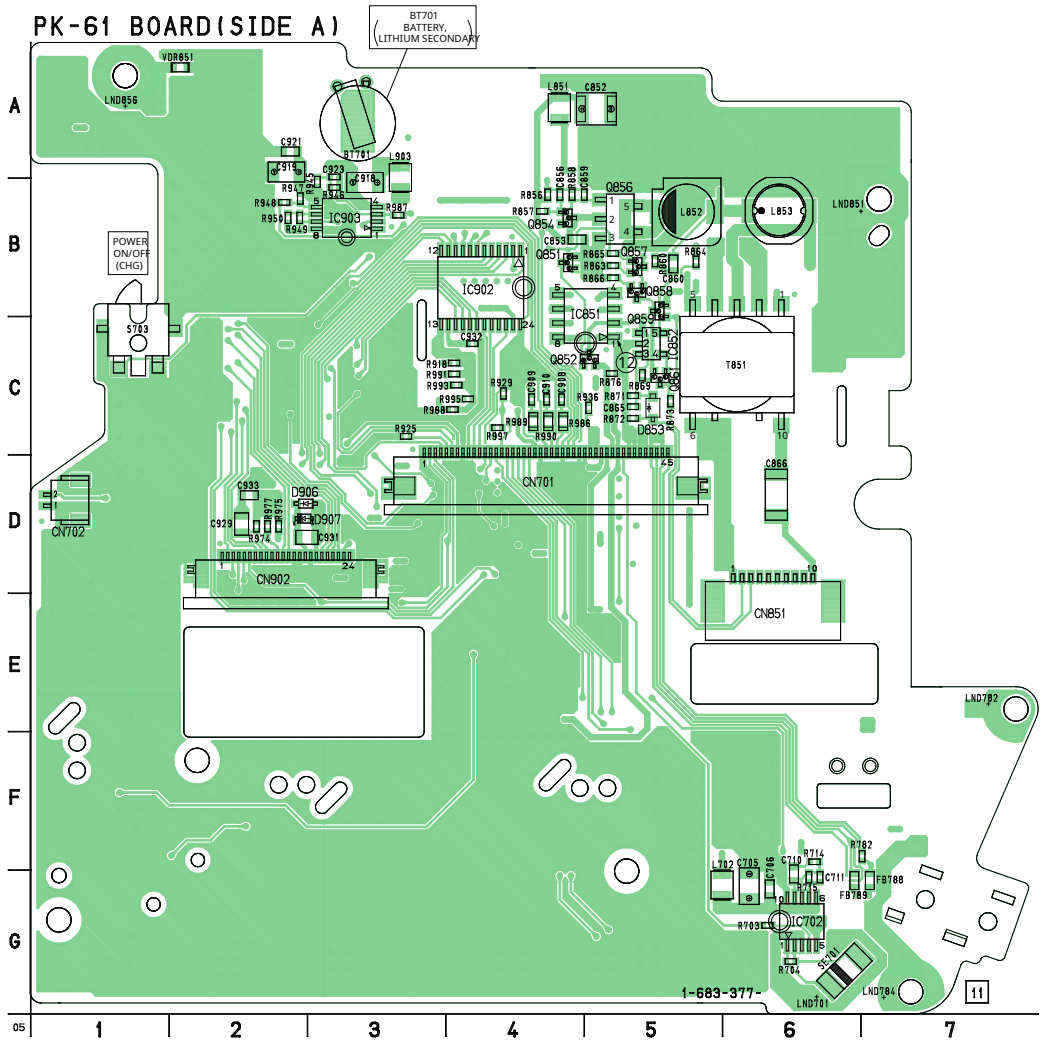
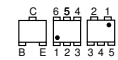
- For Printed Wiring Board.
-  : Uses unleaded solder.
- CD-390 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- There are a few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-58 for printed parts location.
- Chip transistor



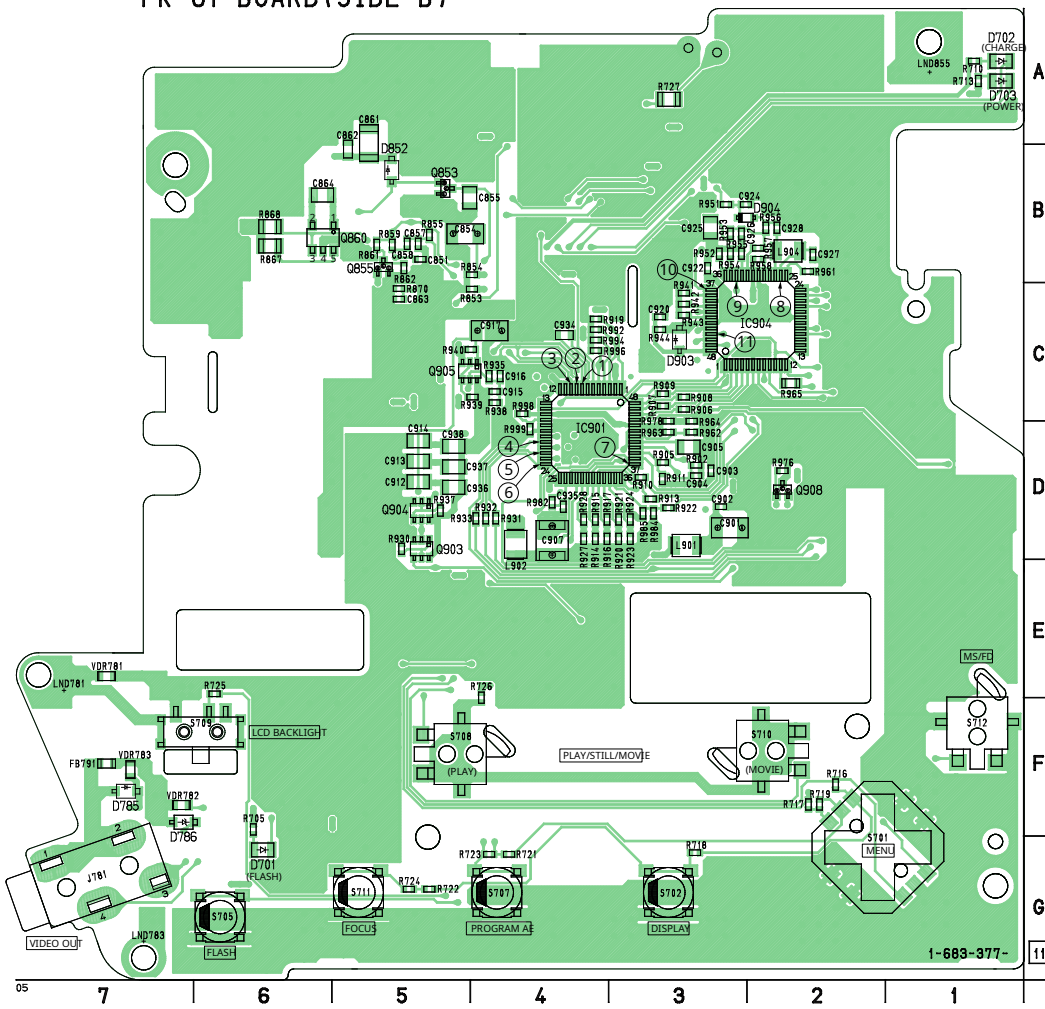
MVC-FD100/FD100H/FD200/FD200H

PK-61 (MODE SWITCH, VIDEO OUT, LCD DRIVE, TIMING GENERATOR, BACK LIGHT DRIVE) PRINTED WIRING BOARD

- For Printed Wiring Board.
-  Uses unleaded solder.
- PK-61 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- There are a few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-59 for printed parts location.
- Chip transistor




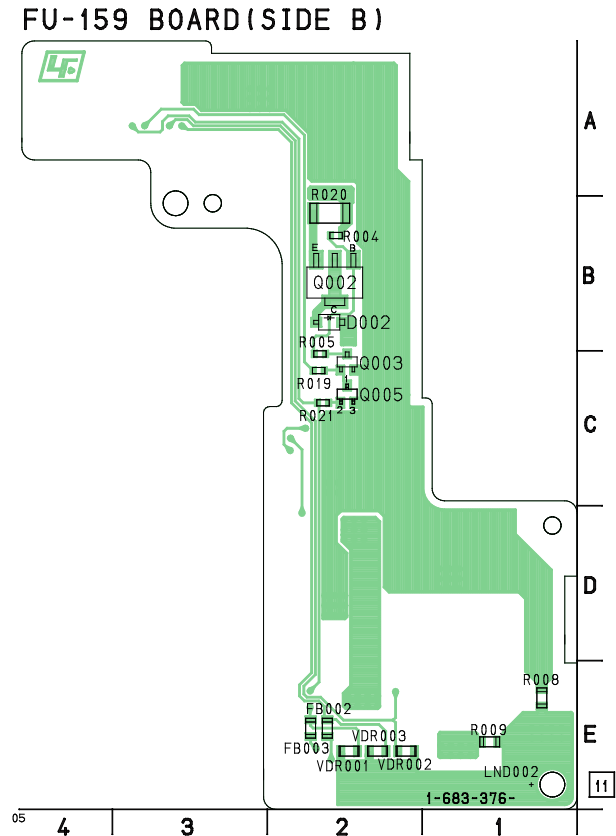
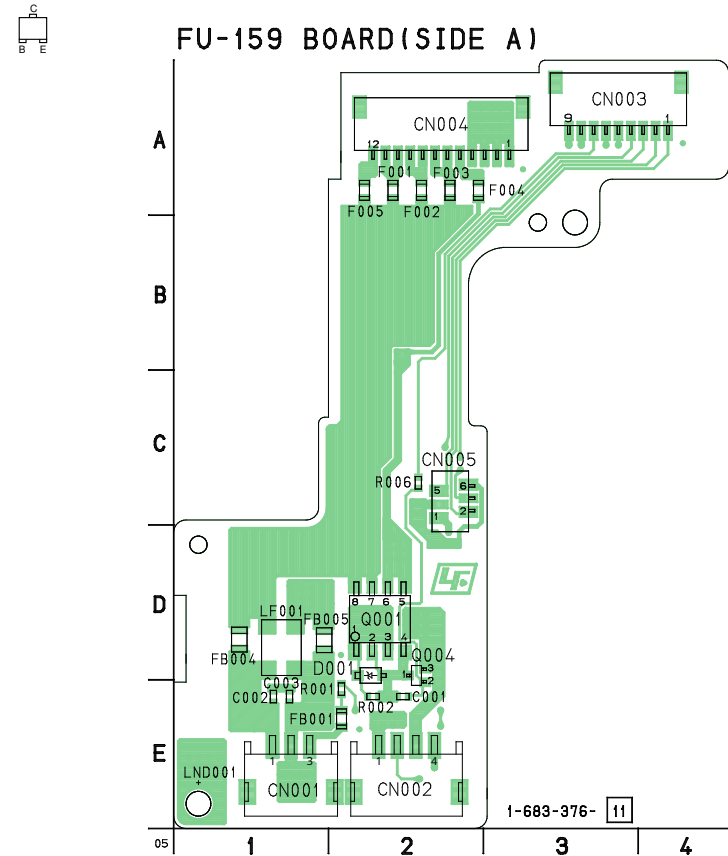
PK-61 BOARD(SIDE B)



MVC-FD100/FD100H/FD200/FD200H

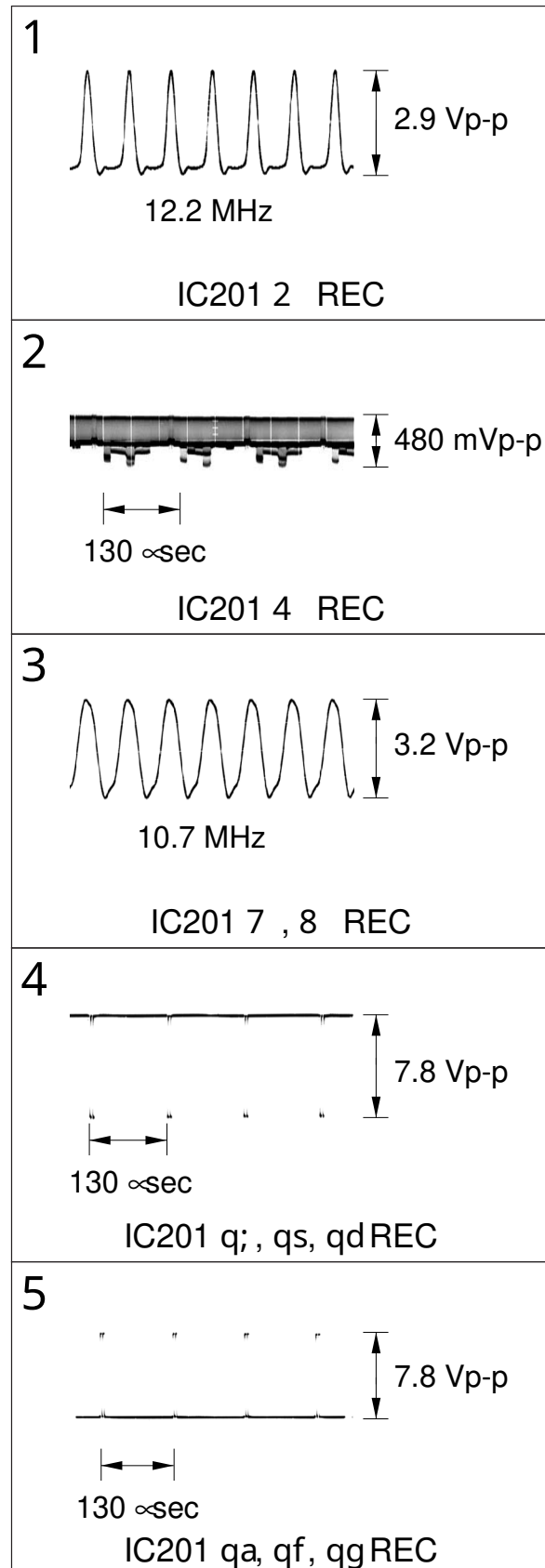
FU-159 (DC IN) PRINTED WIRING BOARD

- For Printed Wiring Board.
-  : Uses unleaded solder.
- FU-159 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- There are a few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-60 for printed parts location.
- Chip transistor

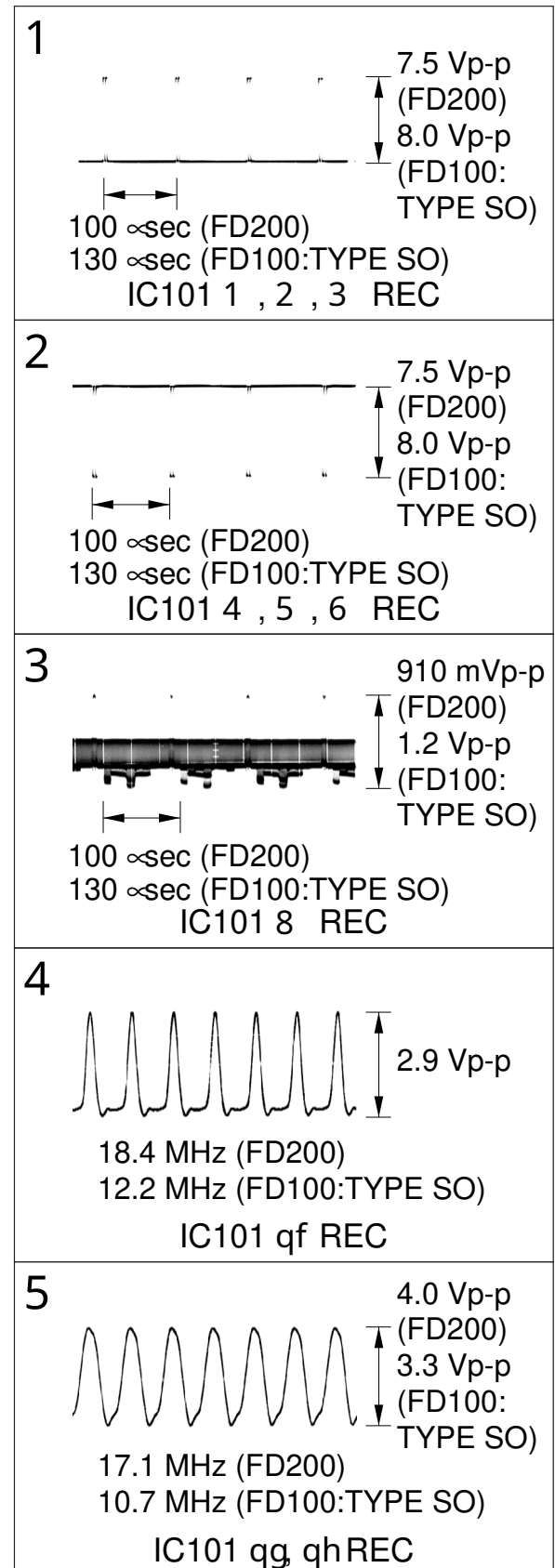


4-4. WAVEFORMS

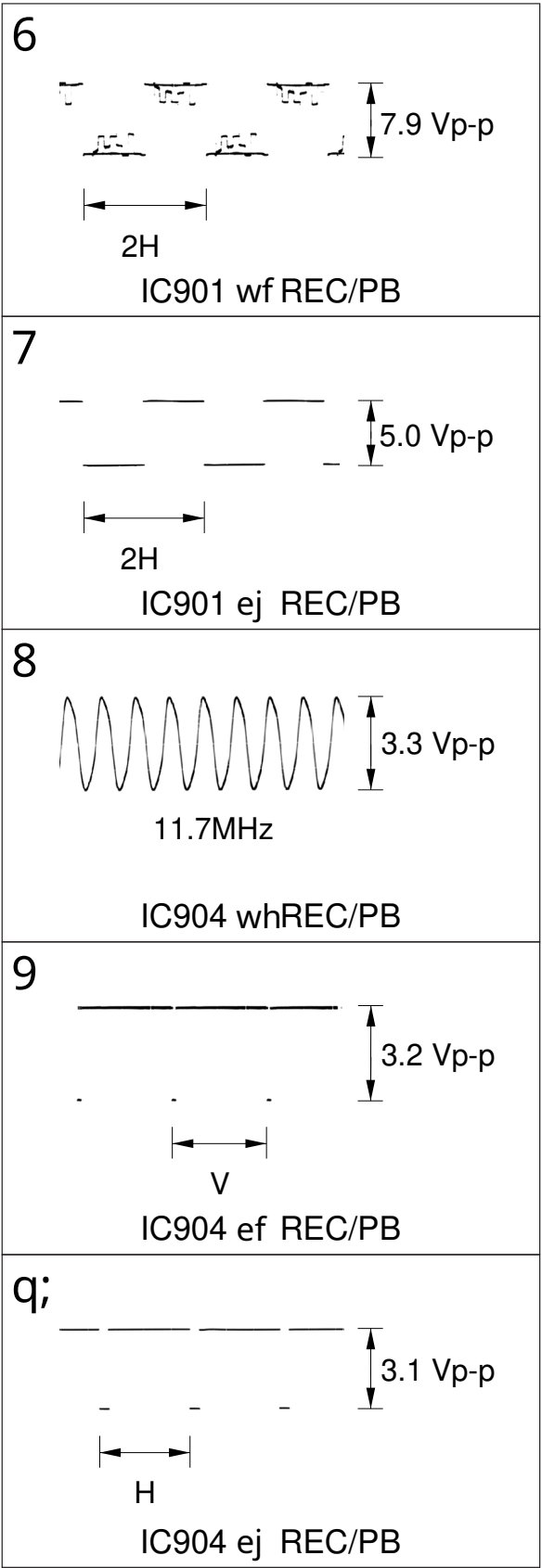
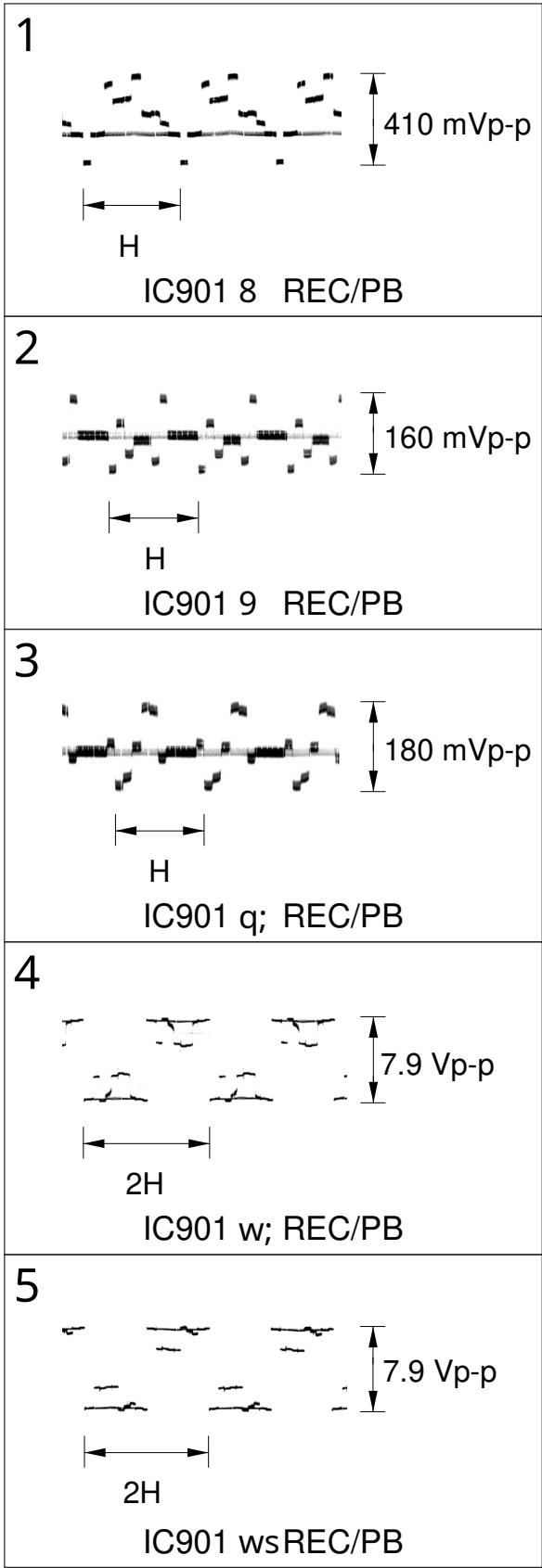
CD-379 BOARD



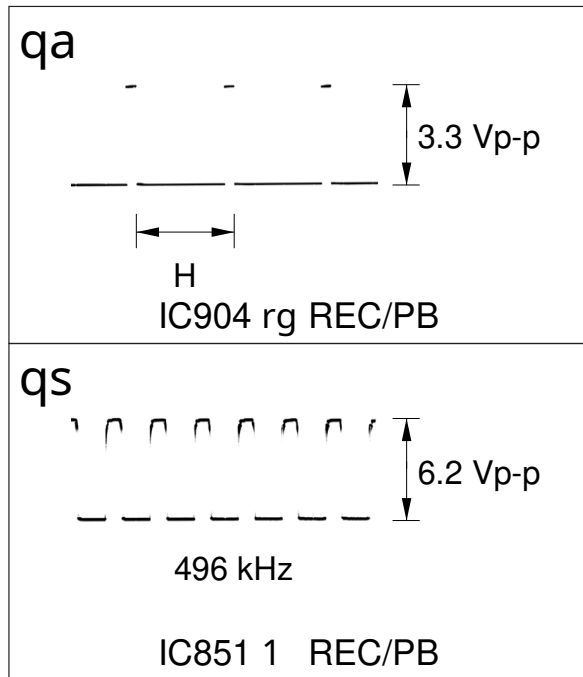
CD-390 BOARD



PK-61 BOARD (1/2)



PK-61 BOARD (2/2)



4-5. PARTS LOCATION

no mark : SIDE A
* mark : SIDE B

| CD-379 BOARD | | CD-390 BOARD | |
|--------------|-----|--------------|-----|
| C201 | A-2 | C101 | A-1 |
| C202 | B-2 | C102 | B-2 |
| C203 | A-1 | C103 | B-1 |
| C204 | A-1 | C105 | B-1 |
| C206 | A-2 | C106 | A-1 |
| C207 | B-2 | C107 | B-1 |
| C208 | B-1 | C108 | A-2 |
| C209 | B-2 | C109 | B-2 |
| C210 | B-2 | C110 | B-2 |
| C211 | B-2 | C111 | B-2 |
| C212 | B-2 | C112 | A-2 |
| C214 | A-2 | C113 | B-2 |
| | | | |
| CN201 | C-2 | CN101 | C-2 |
| | | | |
| D201 | B-2 | D101 | B-2 |
| | | | |
| FB201 | A-2 | FB101 | C-1 |
| FB202 | A-1 | | |
| | | L101 | B-2 |
| L201 | A-1 | | |
| | | Q101 | B-1 |
| Q201 | B-2 | Q102 | A-2 |
| Q202 | A-2 | | |
| | | R102 | B-1 |
| R202 | A-2 | R103 | B-1 |
| R203 | B-2 | R104 | B-1 |
| R204 | C-2 | R105 | B-1 |
| R205 | B-1 | R106 | B-2 |
| R206 | B-1 | R107 | A-2 |
| R207 | B-2 | R108 | A-2 |
| R208 | B-2 | R109 | A-2 |
| R209 | A-2 | R110 | B-2 |
| R210 | A-2 | | |
| | | * TH101 | B-2 |
| * TH201 | B-2 | | |

PK-61 BOARD

| | | | | | |
|---------|-----|--------|-----|----------|-----|
| BT701 | A-3 | L702 | G-5 | * R928 | D-4 |
| | | L851 | A-4 | * R930 | D-5 |
| C705 | G-6 | L852 | B-5 | * R931 | D-4 |
| C706 | G-6 | L853 | B-6 | * R932 | D-4 |
| C710 | G-6 | * L901 | D-3 | * R933 | D-4 |
| C711 | G-6 | * L902 | D-4 | R936 | C-5 |
| * C851 | B-5 | L903 | A-3 | * R937 | D-5 |
| C852 | A-5 | * L904 | B-2 | * R938 | C-4 |
| C853 | B-4 | | | * R939 | C-4 |
| * C854 | B-5 | Q851 | B-4 | * R940 | C-4 |
| * C855 | B-4 | Q852 | C-5 | * R943 | C-3 |
| C856 | B-4 | * Q853 | B-5 | * R944 | C-3 |
| * C857 | B-5 | Q854 | B-4 | R945 | B-3 |
| * C858 | B-5 | * Q855 | B-5 | R947 | B-2 |
| C859 | B-4 | Q856 | B-5 | R948 | B-2 |
| * C861 | A-5 | Q857 | B-5 | R949 | B-2 |
| * C863 | C-5 | Q858 | B-5 | R950 | B-2 |
| * C864 | B-6 | Q859 | B-5 | * R951 | B-3 |
| C865 | C-5 | * Q860 | B-6 | * R953 | B-3 |
| C866 | D-6 | Q861 | C-5 | * R955 | B-3 |
| * C901 | D-3 | * Q903 | D-5 | * R956 | B-2 |
| * C902 | D-3 | * Q904 | D-5 | * R957 | B-2 |
| * C903 | D-3 | * Q905 | C-5 | * R958 | B-2 |
| * C904 | D-3 | * Q908 | D-2 | * R961 | B-2 |
| * C907 | D-4 | | | * R965 | C-2 |
| C908 | C-4 | R703 | G-6 | R974 | D-2 |
| C909 | C-4 | * R705 | F-6 | R975 | D-2 |
| C910 | C-4 | * R710 | A-1 | * R976 | D-2 |
| * C912 | D-5 | * R713 | A-1 | R977 | D-2 |
| * C913 | D-5 | R714 | F-6 | * R982 | D-4 |
| * C914 | D-5 | R715 | G-6 | R986 | C-4 |
| * C917 | C-4 | * R716 | F-2 | R987 | B-3 |
| C918 | B-3 | * R717 | F-2 | R988 | C-4 |
| * C920 | C-3 | * R718 | G-3 | R989 | C-4 |
| C921 | A-2 | * R719 | F-2 | R990 | C-4 |
| * C922 | B-3 | * R721 | G-4 | | |
| C923 | A-3 | * R722 | G-5 | * S701 | G-2 |
| * C924 | B-3 | * R723 | G-4 | * S702 | G-3 |
| * C925 | B-3 | * R724 | G-5 | S703 | C-1 |
| * C926 | B-3 | * R725 | E-6 | * S705 | G-6 |
| * C927 | B-2 | * R726 | F-4 | * S707 | G-4 |
| * C928 | B-2 | * R727 | A-3 | * S708 | F-5 |
| C929 | D-2 | R782 | F-7 | * S709 | F-6 |
| C931 | D-2 | * R853 | C-4 | * S710 | F-2 |
| C932 | C-4 | * R854 | B-4 | * S711 | G-5 |
| * C934 | C-4 | * R855 | B-5 | * S712 | F-1 |
| * C935 | D-4 | R856 | B-4 | | |
| * C936 | D-5 | R857 | B-4 | SE701 | G-6 |
| * C937 | D-5 | R858 | B-4 | | |
| * C938 | D-5 | * R859 | B-5 | T851 | C-6 |
| | | R860 | B-5 | | |
| CN701 | D-4 | * R861 | B-5 | * VDR782 | F-7 |
| CN702 | D-1 | * R862 | B-5 | * VDR783 | F-7 |
| CN851 | E-6 | R863 | B-5 | VDR851 | A-2 |
| CN902 | D-2 | R864 | B-5 | | |
| | | R865 | B-5 | | |
| * D701 | G-6 | R866 | B-5 | | |
| * D702 | A-1 | * R868 | B-6 | | |
| * D703 | A-1 | R869 | C-5 | | |
| * D786 | F-7 | * R870 | C-5 | | |
| D853 | C-5 | R871 | C-5 | | |
| * D904 | B-2 | R872 | C-5 | | |
| D906 | D-2 | R873 | C-5 | | |
| | | R876 | C-5 | | |
| FB788 | G-7 | * R902 | D-3 | | |
| FB789 | G-6 | * R905 | D-3 | | |
| * FB791 | F-7 | * R910 | D-3 | | |
| | | * R911 | D-3 | | |
| IC702 | G-6 | * R913 | D-3 | | |
| IC851 | B-5 | * R919 | C-4 | | |
| IC852 | C-5 | * R920 | D-3 | | |
| * IC901 | D-4 | * R921 | D-3 | | |
| * IC902 | B-4 | * R922 | D-3 | | |
| IC903 | B-3 | * R923 | D-3 | | |
| * IC904 | C-2 | * R924 | D-3 | | |
| | | R925 | C-3 | | |
| * J781 | G-7 | * R927 | D-4 | | |

FU-159 BOARD

| | |
|---------|-----|
| C001 | E-2 |
| CN001 | E-1 |
| CN002 | E-2 |
| CN003 | A-3 |
| CN004 | A-2 |
| CN005 | C-2 |
| * D002 | B-2 |
| F001 | A-2 |
| F002 | A-2 |
| F003 | A-2 |
| F004 | A-2 |
| F005 | A-2 |
| * FB002 | E-2 |
| * FB003 | E-2 |
| LF001 | D-1 |
| Q001 | D-2 |
| * Q002 | B-2 |
| * Q003 | C-2 |
| Q004 | D-2 |
| * Q005 | C-2 |
| R001 | E-2 |
| R002 | E-2 |
| * R004 | B-2 |
| * R005 | C-2 |
| R006 | C-2 |
| * R008 | E-1 |
| * R019 | C-2 |
| * R020 | B-2 |
| * R021 | C-2 |

SECTION 5
ADJUSTMENTS

1-1. Adjusting items when replacing main parts and boards

When replacing main parts and boards, adjust the items indicated by Z in the following table.

| Adjustment section | Adjustment | Replaced parts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | Block replacement | | | | | | Mounted parts replacement | | | | | | | | | | | | Board replacement | | Supporting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Lens device | Flash unit | LCD block | LCD901 (LCD panel) | LCD block | ND801 (Back light unit) | Control switch block | FDD unit | CD-379 board | IC201 (CCD imager) (FD100: TYPE PA) | CD-390 board | IC101 (CCD imager) (FD100: TYPE SO/FD200) | FC-89 board | IC102 (S/H, AGC, A/D) | FC-89 board | IC186 (EVR) | FC-89 board | IC301 (CAMERA DSP) | FC-89 board | IC901 (VIDEO AMP) | | PK-61 board | IC901 (LCD drive) | PK-61 board | IC904 (LCD Timing generator) | PK-61 board | IC902 (EVR) | FC-89 board (COMPLETE) | PK-61 board (COMPLETE) | FC-89 board | IC508 EEPROM | FC-89 board | IC406 EEPROM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initialization of 7, 9, B, D, E, F, page data | Initialization of D page data | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Table 5-1-1

5-1. CAMERA SECTION ADJUSTMENTS

1-1. PREPARATIONS BEFORE ADJUSTMENT

1-1-1. List of service tools

- Oscilloscope
- Regulated power supply
- AC power adaptor (AC-L10A)
- Digital voltmeter
- Vectorscope
- Color monitor

| Ref. No. | Name | | Parts Code | Usage |
|----------|---|-----------|---------------------|---|
| J-1 | Filter for color temperature correction (C14) | | J-6080-058-A | Auto white balance adjustment/check White balance adjustment/check |
| J-2 | Pattern box PTB-450 | | J-6082-200-A | |
| J-3 | Color bar chart for pattern box | | J-6020-250-A | |
| J-4 | Siemens star | | J-6080-875-A | For checking the flange back |
| J-5 | Adjusting remote commander (RM-95 upgraded) (Note2) | | J-6082-053-B | |
| J-6 | Clear chart for pattern box | | J-6080-621-A | |
| J-7 | CPC-12 jig | | J-6082-436-A | For connecting the adjustment remote commander For adjusting the LCD block |
| J-8 | Alignment disk (Two disks as a pair) | TFD2-1(+) | 8-967-990-01 | Dynamic inspection disk with LCD adjustment signal |
| | | TFD2-2(-) | 8-967-990-11 | |
| J-9 | Cleaning disk (OR-D29WA) | | 8-960-009-39 | FDD head cleaning (Note 1) |
| | Cleaning disk | | Available on market | |
| J-10 | Mini pattern box | | J-6082-353-B | For adjusting the flange back |
| J-11 | Power supply cord (DC) | | J-6082-223-A | For the battery down adjustment |

Note 1: Usage and operating note

One or two seconds of momentary use of cleaning disk is sufficient such that FD is accessed momentarily by system control when the main power is turned on. After cleaning, insert a FD for playback. When cleaning is insufficient, use a cleaning disk again.

Caution: Avoid using a cleaning disk excessively. Head can be broken.

Note 2: If the microprocessor IC in the adjusting remote commander is not the new microprocessor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new microprocessor (8-759-148-35).

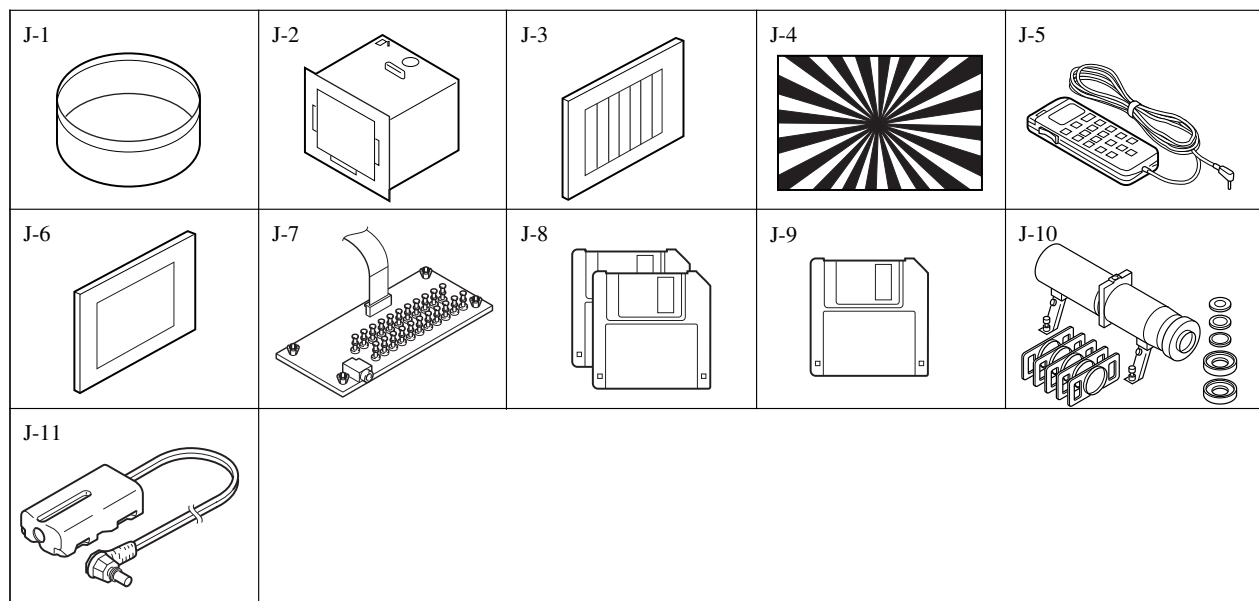


Fig. 5-1-1

1-1-2. Preparations

Note 1: For details of how remove the cabinet and boards, refer to “2. DISASSEMBLY”.

Note 2: When performing only the adjustments, the lens block and boards need not be disassemble.

- 1) Connect the equipment for adjustments according to Fig. 5-1-6.
- 2) Connect the Adjusting remote commander to FC-89 board CN803 via CPC-12 jig (J-6082-436-A). (See Fig. 5-1-3)

Note 3: Setting the “Forced CAMERA mode power ON” Mode

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjusting remote commander.

The Above procedure will enable the camera power to be turned on. After completing adjustments, be sure to exit the “Forced CAMERA mode power ON Mode”.

Note 4: Exiting the “Forced CAMERA mode power ON Mode”

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjusting remote commander.
- 3) Select page: 0, address: 01, and set data: 00.

1-1-3. Discharging of the Flashlight Power Supply

The capacitor which is used as power supply of flashlight is charged with 200 V to 300 V voltage. Discharge this voltage before starting adjustments in order to protect service engineers from electric shock during adjustment.

Discharge procedure

1. Press the FLASH button (PK-61 board S705) and turn off the FLASH LED (PK-61 board D701).
2. Fabricate the discharging jig as shown in Fig. 5-1-5 locally by yourself. Connect the discharging jig to the positive (+) and negative (–) terminal of the flash voltage charge capacitor. Allow ten seconds to discharge the voltage.

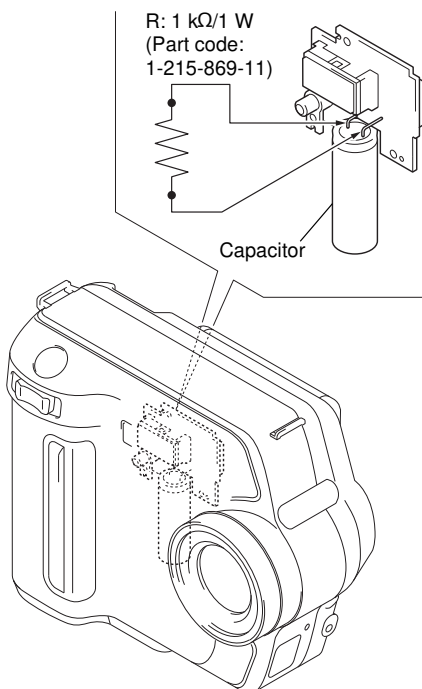


Fig. 5-1-4

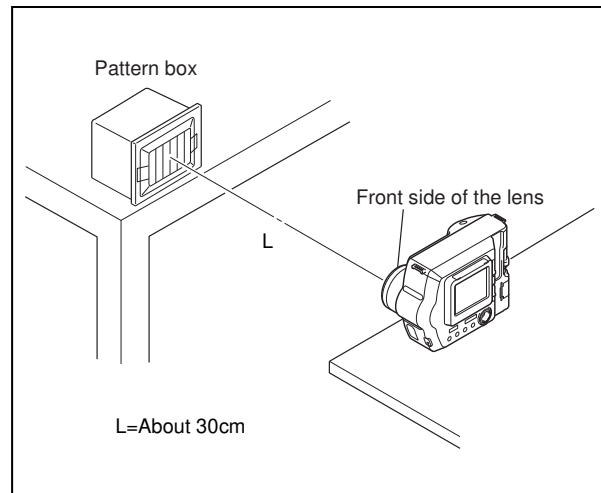


Fig. 5-1-2

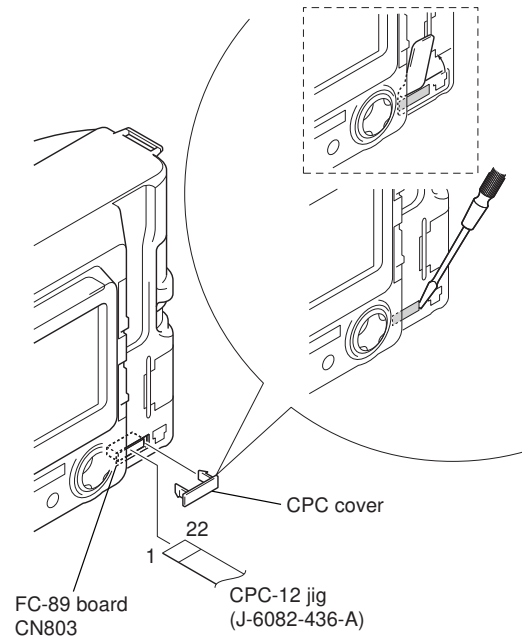


Fig. 5-1-3

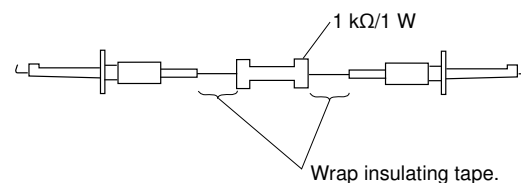


Fig. 5-1-5

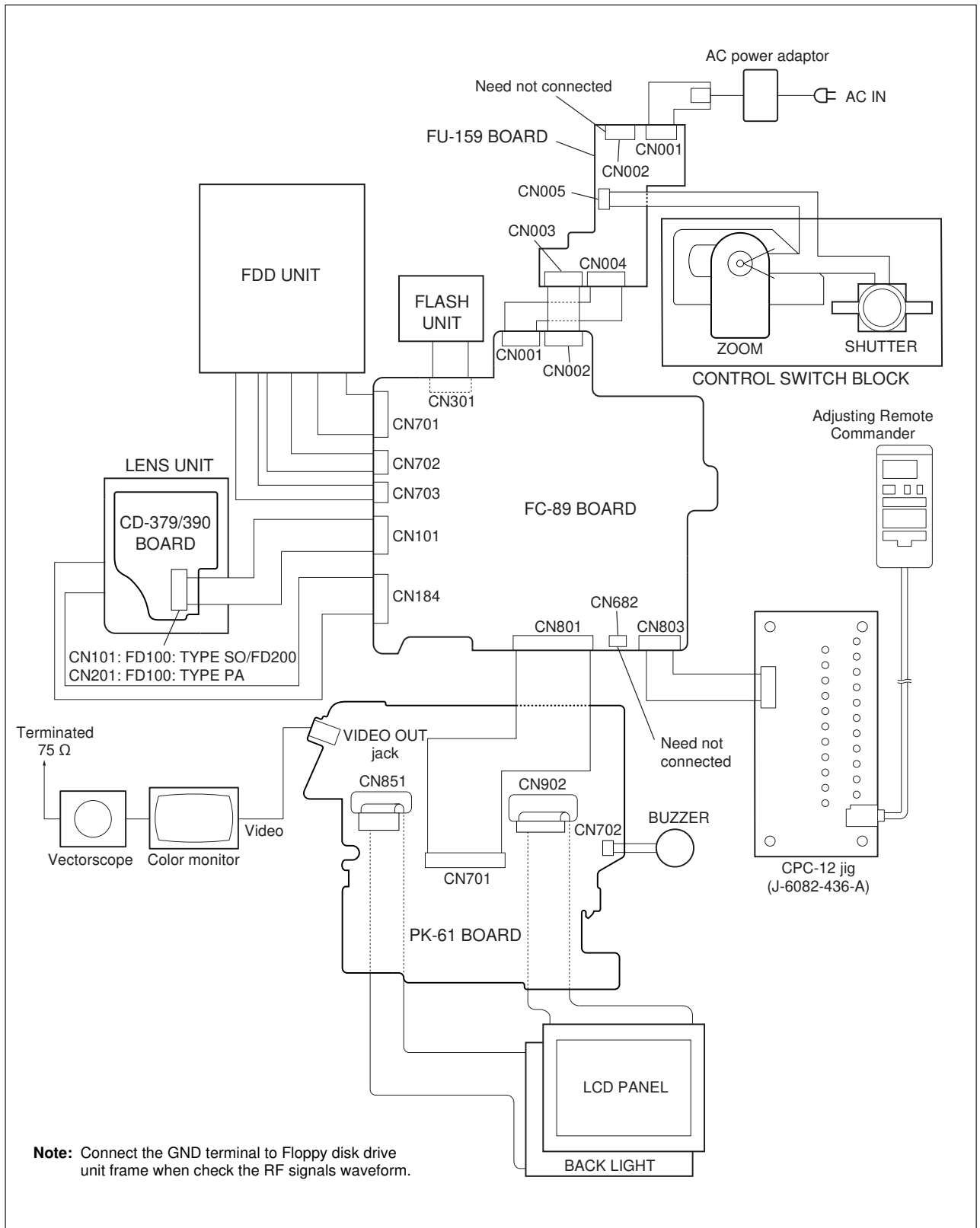


Fig. 5-1-6

1-1-4. Precautions

1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments.

1. PLAY/STILL/MOVIE switch
(PK-61 board S708, S710) STILL
2. PROGRAM AE button (PK-61 board S707)
..... AUTO (No mark indicated on LCD)
3. DISPLAY button (PK-61 board S702) OSD OFF
4. P.EFFECT (Menu display) OFF
5. DEMO (Menu display) OFF

2. Order of Adjustments

Basically carry out adjustments in the order given.

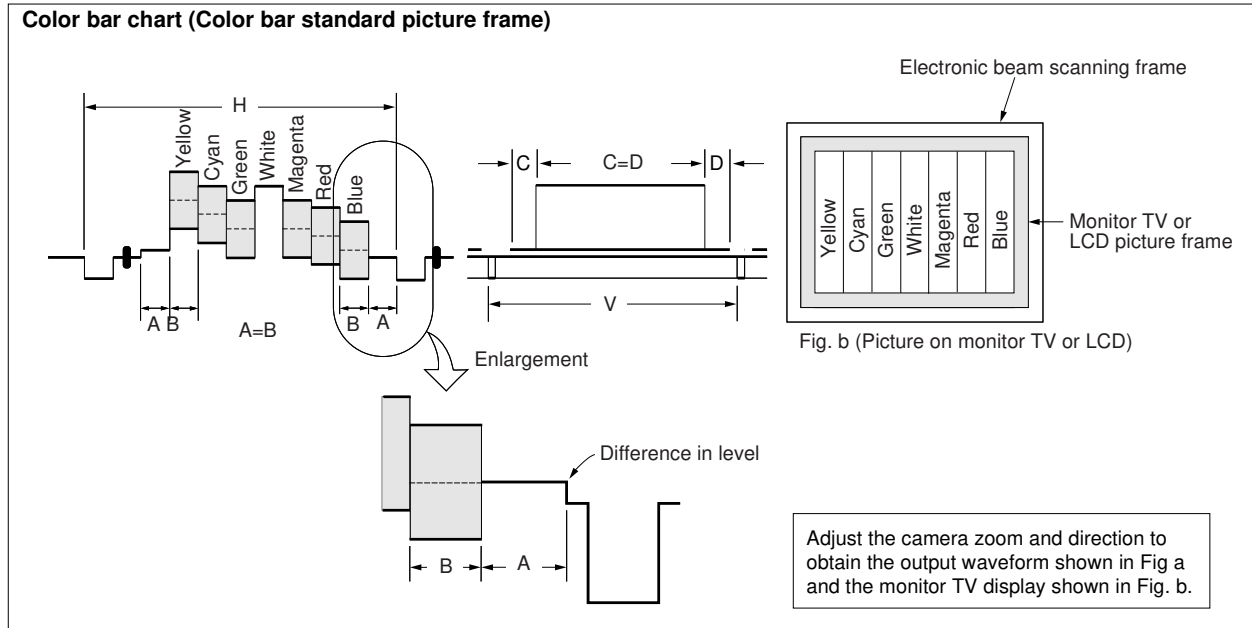


Fig. 5-1-7

3. Subjects

- 1) Color bar chart (Standard picture frame).
When performing adjustments using the color bar chart, adjust the picture frame as shown in Fig. 5-1-7. (Standard picture frame)
- 2) Clear chart (Standard picture frame)
Remove the color bar chart from the pattern box and insert a clear chart in its place. (Do not perform zoom operations during this time)
- 3) Chart for flange back adjustment
Join together a piece of white A0 size paper (1189mm × 841 mm) and a piece of black paper to make the chart shown in Fig. 5-1-8.

Note: Use a non-reflecting and non-glazing vellum paper. The size must be A0 or larger and the joint between the white and black paper must not have any undulations.

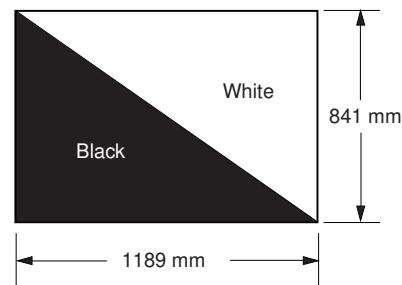


Fig. 5-1-8

4. Preparing the Flash Adjustment Box

A dark room is required to provide an accurate flash adjustment.
If it is not available, prepare the flash adjustment box as given below;

- 1) Provide woody board A, B and C of 15 mm thickness.

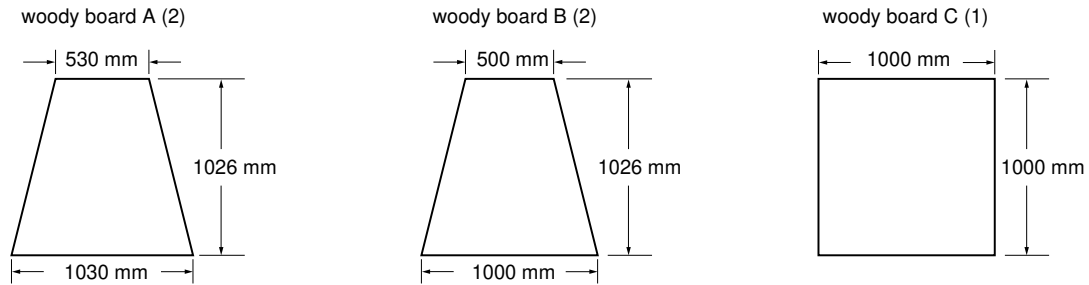


Fig. 5-1-9

- 2) Apply black mat paint to one side of woody board A and B.
- 3) Attach background paper (J-2501-130-A) to woody board C.
- 4) Assemble so that the black sides and the background paper side of woody board A, B and C are internal. (Fig 5-1-10)

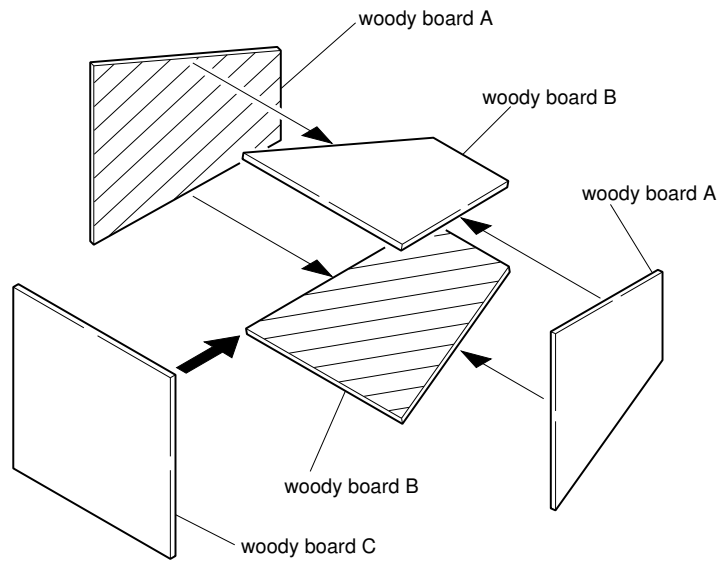


Fig. 5-1-10

1-2. INITIALIZATION OF B, D, E, F, 7, 9 PAGE DATA

1-2-1. Initialization of D Page Data

1. Initializing D Page Data

Note: If the D page data has been initialized, the following adjustments need to be performed again.

- 1) Modification of D page data
- 2) LCD system adjustments

| | |
|-------------------|----------|
| Adjusting page | D |
| Adjusting Address | 10 to EF |

Initializing Method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 0 | 01 | 01 | |
| 2 | 2 | 03 | → | 00 (FD100), 01 (FD200) |
| 3 | 2 | 00 | 2D | |
| 4 | 2 | 01 | 2D | Press PAUSE button. |
| 5 | 2 | 02 | | Check the data changes to “01” |
| 6 | 2 | FF | | Check the data “01”. |
| 7 | | | | Perform “Modification of D page Data”. |

2. Modification of D Page Data

If the D page data has been initialized, change the data of the “Fixed data-2” address shown in the following table by manual input.

Modifying Method:

- 1) Before changing the data, select page: 0, address: 01, and set data: 01.
- 2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
Note: If copy the data built in the different model, the camcorder may not operate.
- 3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
- 4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of D Page Data:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---------------------|
| 1 | 2 | 00 | 29 | |
| 2 | 2 | 01 | 29 | Press PAUSE button. |

3. D Page Table

Note 1: Fixed data-1: Initialized data.

(Refer to “1. Initializing of D Page Data”)

Note 2: Fixed data-2: Modified data.

(Refer to “2. Modification of D Page Data”)

| Address | Initial value | Remark |
|----------|---------------|---|
| 00 to 0F | | |
| 10 | 00 | Test mode |
| 11 to 18 | | Fixed data-1 (Initialized data) |
| 19 | | Fixed data-2 (FD100) Fixed data 1 (Initialized data) (FD200) |
| 1A to 5F | | Fixed data-1 (Initialized data) |
| 60 | | Fixed data-2 |
| 61 | | Fixed data-2 |
| 62 | | Fixed data-2 |
| 63 | | Fixed data-2 |
| 64 to 88 | | Fixed data-1 (Initialized data) |
| 89 | 80 | Zoom center adj. |
| 8A to 8F | | Fixed data-1 (Initialized data) |
| 90 | 90 | Battery down adj. |
| 91 | 98 | |
| 92 | A7 | |
| 93 | BC | |
| 94 | C7 | |
| 95 to 98 | | Fixed data-1 (Initialized data) |
| 99 | | Fixed data-2 |
| 9A | | Fixed data-2 |
| 9B | | Fixed data-2 |
| 9C | | Fixed data-2 |
| 9D to CF | | Fixed data-1 (Initialized data) |
| D0 | 82 | Bright adj. |
| D1 | | Fixed data 2 |
| D2 | 80 | White balance adj. |
| D3 | B8 | |
| D4 | CC | Contrast adj. |
| D5 | 5E | Black limit adj. |
| D6 | 80 | VG center adj. |
| D7 | 78 | VCO adj. (NTSC) |
| D8 | 60 | V-COM adj. |
| D9 | | Fixed data 2 |
| DA | 64 | P-SIG level adj. |
| DB | | Fixed data-1 (Initialized data) |
| DC | | Fixed data 2 |
| DD | 70 | VCO adj. (PAL) |
| DE | | Fixed data-2 |
| DF | | Fixed data-2 |
| E0 to EF | | Fixed data-1 (Initialized data) |

1-2-2. Initialization of B, E, F, 7, 9 Page Data

1. Initializing B, E, F, 7, 9 Page Data

Note: If the B, E, F, 7, 9 Page data has been initialized, “Modification of B, E, F, 7, 9 Page Data” and following adjustments need to be performed again.

- 1) Modification of B, E, F, 7, 9 page data
- 2) Video system adjustments
- 3) Camera system adjustments

| | |
|-------------------|----------|
| Adjusting page | B |
| Adjusting Address | 00 to FF |
| Adjusting page | E |
| Adjusting Address | 00 to FF |
| Adjusting page | F |
| Adjusting Address | 10 to FF |
| Adjusting page | 7 |
| Adjusting Address | 00 to FF |
| Adjusting page | 9 |
| Adjusting Address | 00 to FF |

Initializing Method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 0 | 01 | 01 | |
| 2 | 6 | 00 | FF | |
| 3 | 6 | 01 | FF | Press PAUSE button. |
| 4 | 6 | 02 | | Check the data changes to “01” |
| 5 | 6 | 03 | → | Set the following data, and press PAUSE button. FD100 (Note) 15: TYPE PA 17: TYPE SO FD200 16 |
| 6 | 6 | 00 | 2D | |
| 7 | 6 | 01 | 2D | Press PAUSE button. |
| 8 | 6 | 02 | | Check the data changes to “01” |
| 9 | | | | Perform “Modification of B, E, F, 7, 9 page Data”. |

Note: Type of CCD imager is different according to the CD board in MVC-FD100.

Refer to page 7 to discriminate the type of CCD.

2. Modification of B, E, F, 7, 9 Page Data

If the B, E, F, 7, 9 Page data has been initialized, change the data of the “Fixed data-2” address shown in the following tables by manual input.

Modifying Method:

- 1) Before changing the data, select page: 0, address: 01, and set data: 01.
- 2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
Note: If copy the data built in the different model, the camcorder may not operate.
- 3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
- 4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of B, E, F, 7, 9 Page data

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---------------------|
| 1 | 2 | 00 | 29 | |
| 2 | 2 | 01 | 29 | Press PAUSE button. |

3. B Page Table

Note 1: Fixed data-1: Initialized data.

(Refer to “1. Initializing B, E, F, 7, 9 Page Data”)

Note 2: Fixed data-2: Modified data.

(Refer to “2. Modification of B, E, F, 7, 9 Page Data”)

| Address | Initial value | Remark |
|----------|---------------|---------------------------------|
| 00 to 74 | | Fixed data-1 (Initialized data) |
| 75 | | Fixed data-2 |
| 76 to FF | | Fixed data-1 (Initialized data) |

4. E Page Table

Note 1: Fixed data-1: Initialized data.

(Refer to “1. Initializing B, E, F, 7, 9 Page Data”)

Note 2: Fixed data-2: Modified data.

(Refer to “2. Modification of B, E, F, 7, 9 Page Data”)

| Address | Initial value | Remark |
|----------|---------------|--|
| 00 to AD | | Fixed data-1 (Initialized data) |
| AE | | Fixed data-1 (Initialized data) (FD100: TYPE PA/FD200) Fixed data-2 (FD100: TYPE SO) (Note 3) |
| AF to FF | | Fixed data-1 (Initialized data) |

Note 3: Type of CCD imager is different according to the CD board in MVC-FD100.

Refer to page 7 to discriminate the type of CCD.

5. F Page Table

Note 1: Fixed data-1: Initialized data. (Refer to “1. Initializing of B, E, F, 7, 9 Page Data”)**Note 2:** Fixed data-2: Modified data. (Refer to “2. Modification of B, E, F, 7, 9 Page Data”)

| Address | Initial value | | Remark |
|----------|---------------------------------|-------|--|
| | FD100 | FD200 | |
| 10 to 13 | Fixed data-1 (Initialized data) | | |
| 14 | 14 | 14 | Flange back adj. |
| 15 | 40 | 40 | |
| 16 | 21 | 21 | |
| 17 | 23 | 23 | |
| 18 | 12 | 12 | |
| 19 | AC | AC | |
| 1A | 00 | 00 | |
| 1B | 00 | 00 | |
| 1C | 00 | 00 | |
| 1D | 00 | 00 | |
| 1E | 68 | 68 | |
| 1F | 00 | 00 | |
| 20 | 20 | 20 | |
| 21 | 20 | 20 | |
| 22 | 51 | 51 | |
| 23 | 40 | 40 | |
| 24 | 0A | 0A | |
| 25 | 00 | 00 | |
| 26 | FB | FC | Light value adj. |
| 27 | 7D | 85 | |
| 28 | 27 | 36 | |
| 29 | 00 | 00 | F No. compensation |
| 2A | 00 | 00 | |
| 2B | 00 | 00 | |
| 2C | 00 | 00 | |
| 2D | 00 | 00 | |
| 2E | 65 | 65 | Hall adj. |
| 2F | 7D | 7D | |
| 30 to 33 | Fixed data-1 (Initialized data) | | |
| 34 | 14 | 14 | Hall adj. |
| 35 | 79 | 79 | |
| 36, 37 | Fixed data-1 (Initialized data) | | |
| 38 | Fixed data-2 | | |
| 39 | Fixed data-1 (Initialized data) | | |
| 3A | 2F | 2F | Auto white balance standard data input |
| 3B | 37 | 37 | |
| 3C | 40 | 40 | |
| 3D | D0 | D0 | |
| 3E | Fixed data-1 (Initialized data) | | |
| 3F | B5 | B5 | Auto white balance adj. |
| 40 | 43 | 43 | |
| 41 | 03 | 03 | Color reproduction adj. |
| 42 | E9 | E9 | |
| 43 | 63 | 63 | |
| 44 | 83 | 83 | |

| Address | Initial value | | Remark |
|----------|---------------------------------|-------|--|
| | FD100 | FD200 | |
| 45 | D5 | D5 | Color reproduction adj. |
| 46 | FE | FE | |
| 47 | 73 | 73 | |
| 48 | 45 | 45 | |
| 49 to 4C | Fixed data-1 (Initialized data) | | |
| 4D | 28 | 28 | Strobe white balance adj. |
| 4E | 6E | 6E | |
| 4F to 58 | Fixed data-1 (Initialized data) | | |
| 59 | 00 | 00 | Auto white balance standard data input |
| 5A | 14 | 14 | Mechanical shutter adj. |
| 5B | Fixed data-1 (Initialized data) | | |
| 5C | 63 | 63 | Color reproduction adj. |
| 5D | 83 | 83 | |
| 5E | 03 | 03 | |
| 5F | E9 | E9 | |
| 60 to 63 | Fixed data-1 (Initialized data) | | |
| 64 | 10 | 10 | Strobe white balance adj. |
| 65 | Fixed data-1 (Initialized data) | | |
| 66 | 61 | 61 | Video burst level adj. |
| 67, 68 | Fixed data-1 (Initialized data) | | |
| 69 | 02 | 02 | Strobe white balance adj. |
| 6A | 79 | 79 | |
| 6B | F8 | F8 | |
| 6C | 0B | 09 | Mechanical shutter adj. |
| 6D | 14 | 77 | |
| 6E | 07 | 06 | |
| 6F | 09 | 81 | |
| 70 | 05 | 05 | |
| 71 | 15 | 89 | |
| 72 | 02 | 04 | |
| 73 | 53 | C1 | |
| 74 | 00 | 00 | |
| 75 | 00 | 00 | |
| 76 | 01 | 01 | |
| 77 | 01 | 01 | |
| 78 | 01 | 01 | |
| 79 | 01 | 01 | |
| 7A | 00 | 00 | |
| 7B | 27 | 29 | |
| 7C | 3C | 2A | |
| 7D | 33 | 33 | |
| 7E | 33 | 33 | |
| 7F | 00 | 00 | |
| 80 | 00 | 00 | Auto white balance adj. |
| 81 | 5A | 5A | Video sync level adj. |
| 82 to 86 | Fixed data-1 (Initialized data) | | |

MVC-FD100/FD100H/FD200/FD200H

| Address | Initial value | | Remark |
|----------|---------------|-------|--|
| | FD100 | FD200 | |
| 87 | FF | FF | Flange back adj. |
| 88, 89 | | | Fixed data-1 (Initialized data) |
| 8A | 00 | 00 | Flange back adj. |
| 8B | 20 | 20 | |
| 8C to 9F | | | Fixed data-1 (Initialized data) |
| A0 | 00 | 00 | Mixed color cancel adj. |
| A1 | 00 | 00 | |
| A2 | 00 | 00 | |
| A3 | 00 | 00 | |
| A4 to A8 | | | Fixed data-1 (Initialized data) |
| A9 | 00 | 00 | Auto white balance adj. |
| AA | 00 | 00 | |
| AB to C4 | | | Fixed data-1 (Initialized data) |
| C5 | | | Fixed data-2 (FD100: TYPE PA) |
| | | | Fixed data-1 (Initialized data) (FD100: TYPE SO/FD200) (Note 3) |
| C6 | | | Fixed data-2 (FD100: TYPE PA) |
| | | | Fixed data-1 (Initialized data) (FD100: TYPE SO/FD200) (Note 3) |
| C7 | | | Fixed data-2 (FD100: TYPE PA) |
| | | | Fixed data-1 (Initialized data) (FD100: TYPE SO/FD200) (Note 3) |
| C8 to FF | | | Fixed data-1 (Initialized data) |

Note 3: Type of CCD imager is different according to the CD board in MVC-FD100.
Refer to page 7 to discriminate the type of CCD.

6. 7 Page Table**Note 1:** Fixed data-1: Initialized data. (Refer to “1. Initializing the B, E, F, 7, 9 Page Data”)**Note 2:** Fixed data-2: Modified data. (Refer to “2. Modified of B, E, F, 7, 9 Page Data”)

| Address | Initial value | Remark |
|----------|---------------------------------|-------------------------------|
| 00 to 5F | Fixed data-1 (Initialized data) | |
| 60 | 0F | CCD black defect compensation |
| 61 | FF | |
| 62 | 0F | |
| 63 | FF | |
| 64 | 0F | |
| 65 | FF | |
| 66 | 0F | |
| 67 | FF | |
| 68 | 0F | |
| 69 | FF | |
| 6A | 0F | |
| 6B | FF | |
| 6C | 0F | |
| 6D | FF | |
| 6E | 0F | |
| 6F | FF | |
| 70 | 0F | |
| 71 | FF | |
| 72 | 0F | |
| 73 | FF | |
| 74 | 0F | |
| 75 | FF | |
| 76 | 0F | |
| 77 | FF | |
| 78 | 0F | |
| 79 | FF | |
| 7A | 0F | |
| 7B | FF | |
| 7C | 0F | |
| 7D | FF | |
| 7E | 0F | |
| 7F | FF | |
| 80 | 0F | CCD white defect compensation |
| 81 | FF | |
| 82 | 0F | |
| 83 | FF | |
| 84 | 0F | |
| 85 | FF | |
| 86 | 0F | |
| 87 | FF | |
| 88 | 0F | CCD white defect compensation |
| 89 | FF | |
| 8A | 0F | |
| 8B | FF | |
| 8C | 0F | |
| 8D | FF | |
| 8E | 0F | |

| Address | Initial value | Remark |
|---------|---------------|-------------------------------|
| 8F | FF | CCD white defect compensation |
| 90 | 0F | |
| 91 | FF | |
| 92 | 0F | |
| 93 | FF | |
| 94 | 0F | |
| 95 | FF | |
| 96 | 0F | |
| 97 | FF | |
| 98 | 0F | |
| 99 | FF | |
| 9A | 0F | |
| 9B | FF | |
| 9C | 0F | |
| 9D | FF | |
| 9E | 0F | |
| 9F | FF | |
| A0 | 0F | |
| A1 | FF | |
| A2 | 0F | |
| A3 | FF | |
| A4 | 0F | |
| A5 | FF | |
| A6 | 0F | |
| A7 | FF | |
| A8 | 0F | |
| A9 | FF | |
| AA | 0F | |
| AB | FF | |
| AC | 0F | |
| AD | FF | |
| AE | 0F | |
| AF | FF | |
| B0 | 0F | |
| B1 | FF | |
| B2 | 0F | |
| B3 | FF | |
| B4 | 0F | |
| B5 | FF | |
| B6 | 0F | |
| B7 | FF | |
| B8 | 0F | |
| B9 | FF | |
| BA | 0F | |
| BB | FF | |
| BC | 0F | |
| BD | FF | |
| BE | 0F | |

| Address | Initial value | Remark |
|---------|---------------|-------------------------------|
| BF | FF | CCD white defect compensation |
| C0 | 0F | |
| C1 | FF | |
| C2 | 0F | |
| C3 | FF | |
| C4 | 0F | |
| C5 | FF | |
| C6 | 0F | |
| C7 | FF | |
| C8 | 0F | |
| C9 | FF | |
| CA | 0F | |
| CB | FF | |
| CC | 0F | |
| CD | FF | |
| CE | 0F | |
| CF | FF | |
| D0 | 0F | |
| D1 | FF | |
| D2 | 0F | |
| D3 | FF | |
| D4 | 0F | |
| D5 | FF | |
| D6 | 0F | |
| D7 | FF | |
| D8 | 0F | |
| D9 | FF | |
| DA | 0F | |
| DB | FF | |
| DC | 0F | |
| DD | FF | |
| DE | 0F | |
| DF | FF | |
| E0 | 0F | |
| E1 | FF | |
| E2 | 0F | |
| E3 | FF | |
| E4 | 0F | |
| E5 | FF | |
| E6 | 0F | |
| E7 | FF | |
| E8 | 0F | |
| E9 | FF | |
| EA | 0F | |
| EB | FF | |
| EC | 0F | |
| ED | FF | |
| EE | 0F | |
| EF | FF | |
| F0 | 0F | |

| Address | Initial value | Remark |
|---------|---------------|-------------------------------|
| F1 | FF | CCD white defect compensation |
| F2 | 0F | |
| F3 | FF | |
| F4 | 0F | |
| F5 | FF | |
| F6 | 0F | |
| F7 | FF | |
| F8 | 0F | |
| F9 | FF | |
| FA | 0F | |
| FB | FF | |
| FC | 0F | |
| FD | FF | |
| FE | 0F | |
| FF | FF | |

7. 9 Page Table

Note 1: Fixed data-1: Initialized data.

(Refer to “1. Initializing the B, E, F, 7, 9 Page Data”)

Note 2: Fixed data-2: Modified data.

(Refer to “2. Modification of B, E, F, 7, 9 Page Data”)

| Address | Initial value | Remark |
|----------|---------------|---------------------------------|
| 00 to 5C | | Fixed data-1 (Initialized data) |
| 5D | | Fixed data-2 |
| 5E | | Fixed data-2 |
| 5F to FF | | Fixed data-1 (Initialized data) |

1-3. VIDEO SYSTEM ADJUSTMENTS

1. Video Sync Level Adjustment

Adjust the sync level of the composite video signal output.

| | |
|----------------------|---|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | Video terminal of VIDEO OUT jack (75 Ω terminated) |
| Measuring Instrument | Oscilloscope |
| Adjustment Page | F |
| Adjustment Address | 81 |
| Specified Value | A = 286 ± 10 mVp-p (NTSC) A = 300 ± 12 mVp-p (PAL) |

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 0 | 01 | 01 | |
| 2 | 5 | F1 | 04 | |
| 3 | F | 81 | | Change the data and set the sync level (A) to the specified value. |
| 4 | F | 81 | | Press PAUSE button |

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 5 | F1 | 00 | |
| 2 | 0 | 01 | 00 | |

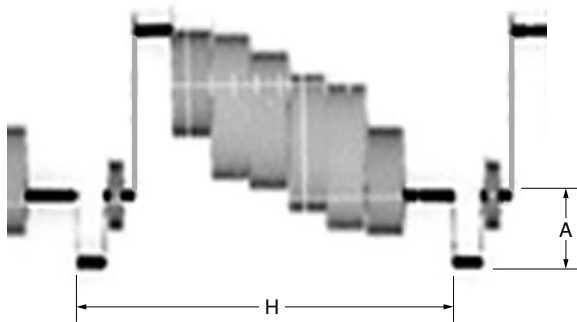


Fig. 5-1-11

2. Video Burst Level Adjustment

Adjust the burst level of the composite video signal output.

| | |
|----------------------|---|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | Video terminal of VIDEO OUT jack (75 Ω terminated) |
| Measuring Instrument | Oscilloscope |
| Adjustment Page | F |
| Adjustment Address | 66 |
| Specified Value | A = 286 ± 10 mVp-p (NTSC) A = 300 ± 12 mVp-p (PAL) |

Note: Perform “Video Sync Level Adjustment” before this adjustment.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 0 | 01 | 01 | |
| 2 | 5 | F1 | 04 | |
| 3 | F | 66 | | Change the data and set the burst level (A) to the specified value. |
| 4 | F | 66 | | Press PAUSE button |

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 5 | F1 | 00 | |
| 2 | 0 | 01 | 00 | |

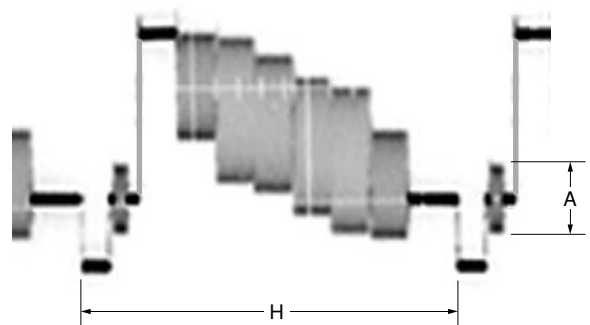


Fig. 5-1-12

1-4. CAMERA SYSTEM ADJUSTMENTS

Before perform the camera system adjustments, check that the specified values of “VIDEO SYSTEM ADJUSTMENTS” are satisfied.

Note: For “CAMERA SYSTEM ADJUSTMENTS”, perform in order of item numbers.

Data setting during camera system adjustments

Perform the following data setting before the camera system adjustments.

It is not necessary to perform the following data setting everytime when you perform some items of camera system adjustments continuously unless the power is turned off. Only when the power is turned off during this adjustments, perform the data setting again, then continue the adjustments.

Set up setting:

- 1) VIDEO OUT of SET UP setting..... NTSC (NTSC mode)
(This adjustment must be performed in NTSC mode, so don't set the SET UP setting to “PAL”)

Data setting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 0 | 01 | 01 | |
| 2 | D | 63 | | Note down the data. |
| 3 | D | 63 | | Set the bit value of bit 6 is “1”, and press PAUSE button. (Note 1) |
| 4 | D | 10 | 81 | Press PAUSE button. |
| 5 | 6 | C1 | | Check the data changes to “02”. |
| 6 | 5 | F1 | FF | |
| 7 | 6 | 6C | 01 | |
| 8 | | | | Wait for 1 second. |
| 9 | F | 38 | B1 | Press PAUSE button. |
| 10 | F | C5 | 40 | Press PAUSE button. (FD100: TYPE PA only) (Note 3) |
| 11 | F | C6 | 5A | Press PAUSE button. (FD100: TYPE PA only) (Note 3) |
| 12 | F | C7 | 4A | Press PAUSE button. (FD100: TYPE PA only) (Note 3) |
| 13 | B | 75 | 00 | Press PAUSE button. |
| 14 | E | AE | F9 | Press PAUSE button. (FD100: TYPE SO only) (Note 3) |
| 15 | 9 | 5D | 82 | Press PAUSE button. |
| 16 | 9 | 5E | 22 | Press PAUSE button. |

Note 1: For the bit values, refer to “5-2. SERVICE MODE”, “2-3. 2. Bit value discrimination”.

Note 2: Repeat the “Data setting method”, if the power was turned off and on during the “CAMERA SYSTEM ADJUSTMENTS”.

Note 3: Type of CCD imager is different according to the CD board in MVC-FD100.
Refer to page 7 to discriminate the type of CCD.

After completing the camera system adjustments, release the data setting:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 5 | F1 | 00 | |
| 2 | 6 | 6C | 00 | |
| 3 | B | 75 | 10 | Press PAUSE button. |
| 4 | D | 10 | 00 | Press PAUSE button. |
| 5 | D | 63 | | Set the bit value of bit 6 is “0”, and press PAUSE button. (Note 1) |
| 6 | 0 | 01 | 00 | |

Picture Frame Setting

| | |
|----------------------|--|
| Mode | CAMERA |
| Subject | Color bar chart (Standard picture frame with the zoom lens at WIDE end) |
| Measurement Point | Video terminal of VIDEO OUT jack (75 Ω terminated) |
| Measuring Instrument | Oscilloscope and monitor TV |
| Specified Value | A=B, C=D, E=F |

Note 1: Displayed data of the page 1 of adjusting remote commander.

1:XX:XX
 └──┬── YL data
 └──┴── YH data

Switch setting

1) FOCUS MACRO

Setting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Shoot the color bar chart with the zoom WIDE end. |
| 2 | | | | Enter the output of VIDEO OUT to the monitor TV, and move the position as shown in Fig. 5-1-15. |
| 3 | | | | Horizontal width of one color (B, C) and that of black (A, D) on the color bar chart should be same. (See Fig. 5-1-13) |
| 4 | | | | With vertical width of black (E, F) set in same, the color bar chart should come to the center of monitor TV. (See Fig. 5-1-14) |
| 5 | | | | Check that the color bar on the monitor TV is focused. |
| 6 | 0 | 03 | 22 | |
| 7 | 1 | | | Note down the YH and YL data. (Note 1) |

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 0 | 03 | 00 | |

How to reset the zoom and focus when they deviated:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---------------------------------|
| 1 | 6 | 2C | 01 | |
| 2 | 6 | 90 | 00 | |
| 3 | 6 | 91 | 00 | |
| 4 | 6 | 92 | YL | (Note 2) |
| 5 | 6 | 93 | YH | (Note 2) |
| 6 | 6 | 01 | 79 | Press PAUSE button. |
| 7 | 6 | 07 | | Check the data changes to "01". |
| 8 | 6 | 01 | 00 | Press PAUSE button. |

Note 2: The data noted down at step 7 of "Setting method".

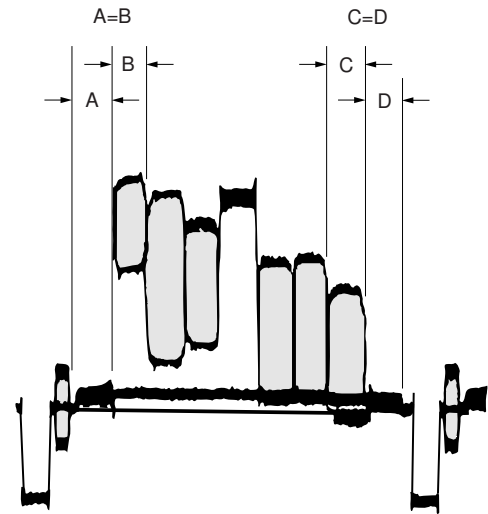
Check on the oscilloscope**1. Horizontal period**

Fig. 5-1-13

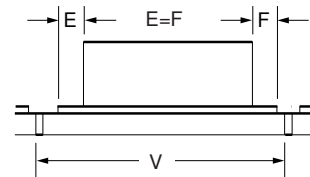
2. Vertical period

Fig. 5-1-14

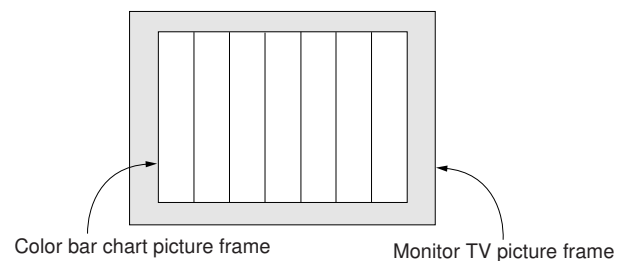
Check on the monitor TV

Fig. 5-1-15

1. HALL Adjustment



| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Not required |
| Measurement Point | Displayed data of page: 1 (Note 2) |
| Measuring Instrument | Adjusting remote commander |
| Adjustment Page | F |
| Adjustment Address | 2E, 2F, 34, 35 |
| Specified value | 10 to 18 during IRIS OPEN 75 to 7D during IRIS CLOSE |

Note 1: Check that the data of page: 6, address: 02 is “00”.

If not, turn the power of unit OFF/ON.

Note 2: The right two digits of the page: 1 displayed data of the adjusting remote commander.

1:00:XX

——— Displayed data

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 2 | 6 | 94 | 14 | |
| 3 | 6 | 95 | 79 | |
| 4 | 6 | 01 | 6D | Press PAUSE button. (Note 3) |
| 5 | 6 | 02 | | Check the data changes to “01”. |
| 6 | 6 | 01 | 00 | Press PAUSE button. |
| 7 | 0 | 03 | 03 | |
| 8 | 6 | 01 | 01 | Press PAUSE button. |
| 9 | 1 | | | Check that the displayed data (Note 2) during IRIS OPEN satisfied the specified value. |
| 10 | 6 | 01 | 03 | Press PAUSE button. |
| 11 | 1 | | | Check that the displayed data (Note 2) during IRIS CLOSE satisfied the specified value. |

Note 3: The adjustment data will be automatically input to page:

F, address: 2E, 2F, 34 and 35.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | 6 | 94 | 00 | |
| 3 | 6 | 95 | 00 | |
| 4 | 0 | 03 | 00 | |
| 5 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

2. Flange Back Adjustment (Using the minipattern box) Radar/W

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

| | |
|----------------------|--|
| Mode | CAMERA |
| Subject | Siemens star chart with ND filter for minipattern box (Note 1) |
| Measurement Point | Check operation on monitor TV |
| Measuring Instrument | |
| Adjustment Page | F |
| Adjustment Address | 14 to 25, 87, 8A, 8B |

Note 1: Dark Siemens star chart.

Note 2: Check that the data of page: 6, address: 02 is "00".
If not, turn the power of unit OFF/ON.

Preparations before adjustments:

- 1) The minipattern box is installed as shown in the following figure.
Note 3: The attachment lenses are not used.
- 2) Install the minipattern box so that the distance between it and the front of lens of camera is less than 3 cm.
- 3) Make the height of minipattern box and the camera equal.
- 4) Check the output voltage of the regulated power supply is the specified voltage ± 0.01 Vdc.
- 5) Check that the center of Siemens star chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

Specified voltage: The specified voltage varies according to the minipattern box, so adjustment the power supply output voltage to the specified voltage written on the sheet which is supplied with the minipattern box.

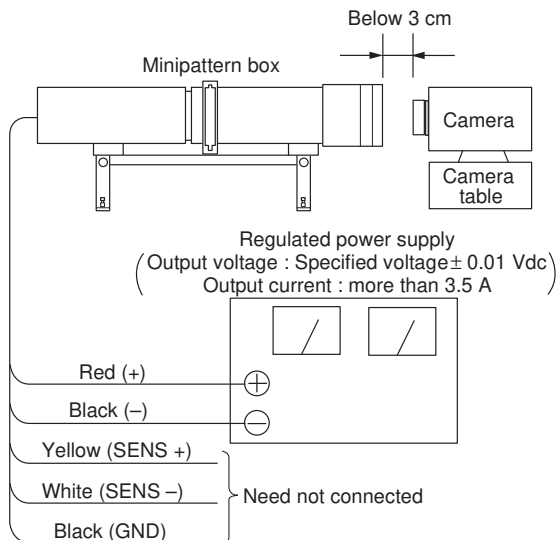


Fig. 5-1-16

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | | | | Perform "Data setting during camera system adjustment". (Refer to page 5-16) |
| 2 | 6 | 01 | 13 | Press PAUSE button. |
| 3 | 6 | 01 | 27 | Press PAUSE button. (Note 4) |
| 4 | 6 | 02 | | Check the data changes to "01". |
| 5 | F | 87 | | Check the data. 00: Normal 01 to FF: Defective |

Note 4: The adjustment data will be automatically input to page: F, address: 14 to 25, 87, 8A and 8B.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |
| 3 | | | | Perform "Flange Back Check". |

3. Flange Back Adjustment (Using the flange back adjustment chart and Subject More than 500 m Away)

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

3-1.Flange Back Adjustment (1)

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Flange back adjustment chart (2.0 m from the front of lens) (Luminance: 300 to 400 lux) |
| Measurement Point | Check operation on monitor TV |
| Measuring Instrument | |
| Adjustment Page | F |
| Adjustment Address | 14 to 25, 87, 8A, 8B |

Note 1: Check that the data of page: 6, address: 02 is “00”.
If not, turn the power of unit OFF/ON.

Preparations before adjustments:

- 1) Place the Flange back adjustment chart 2.0 m from the front of the lens.
- 2) Check that the center of Flange back adjustment chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 2 | 6 | 01 | 13 | Press PAUSE button. |
| 3 | 6 | 01 | 15 | Press PAUSE button. (Note 2) |
| 4 | 6 | 02 | | Check the data changes to “01”. |
| 5 | F | 87 | | Check the data. 00: Normal 01 to FF: Defective |

Note 2: The adjustment data will be automatically input to page: F, address: 14 to 25, 87, 8A and 8B.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |
| 3 | | | | Perform “Flange Back Adjustment (2)”. |

3-2.Flange Back Adjustment (2)

Perform this adjustment after performing “Flange Back Adjustment (1)”.

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Subject more than 500 m away (Subject with clear contrast such as buildings, etc.) |
| Measurement Point | Check operation on monitor TV |
| Measuring Instrument | |
| Adjustment Page | F |
| Adjustment Address | 14 to 25, 87, 8A, 8B |

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Set the zoom lens to the TELE end and expose a subject that is more than 500 m away. (Note 1) |
| 2 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 3 | 6 | 01 | 13 | Press PAUSE button. |
| 4 | | | | Place ND filter on the lens so that the optimum image is obtain. |
| 5 | 6 | 01 | 29 | Press PAUSE button. (Note 2) |
| 6 | 6 | 02 | | Check the data changes to “01”. |
| 7 | F | 87 | | Check the data. 00: Normal 01 to FF: Defective |

Note 1: Subject with clear contrast such as building, etc.
Nearby subjects less than 500 m away should not be in the screen.

Note 2: The adjustment data will be automatically input to page: F, address: 14 to 25, 87, 8A and 8B.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | | | | Release the data setting performed at step 2. (Refer to page 5-16) |
| 3 | | | | Perform “Flange Back Check”. |

4. Flange Back Check

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Siemens star (1.0 m from the front of the lens) (Luminance: 200 to 400 lux) |
| Measurement Point | Check operation on monitor TV |
| Measuring Instrument | |
| Specified value | Focused at the TELE end and WIDE end |

Checking method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | | | | Place the Siemens star 1.0 m from the front of the lens. |
| 2 | | | | To open the IRIS , decrease the luminous intensity to the Siemens star up to a point before noise appear on the image. |
| 3 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 4 | B | 3D | | Note down the data. |
| 5 | B | 3D | 64 | Press PAUSE button. |
| 6 | | | | Shoot the Siemens star with the zoom TELE end. |
| 7 | | | | Turn on the auto focus. |
| 8 | | | | Check that the lens is focused. |
| 9 | 6 | 2C | 01 | |
| 10 | | | | While observe the TV monitor, change the zoom to the WIDE end and check that the lens is focused. |

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 6 | 2C | 00 | |
| 2 | B | 3D | | Set data noted down at step 4, and press PAUSE button. |
| 3 | | | | Release the data setting performed at step 3. (Refer to page 5-16) |

5. F No. Compensation RadarW

Compensate the unevenness of the iris meter sensitivity.

| | |
|--------------------|--|
| Mode | CAMERA |
| Subject | Clear chart (Standard picture frame with the zoom lens at WIDE end) |
| Adjustment Page | F |
| Adjustment Address | 29 to 2D |

Note 1: Check that the data of page: 6, address: 02 is “00”.
If not, turn the power of unit OFF/ON.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 2 | | | | Perform “Picture Frame setting”. (Refer to page 5-17) |
| 3 | 6 | 01 | BB | Press PAUSE button. (Note 2) |
| 4 | 6 | 02 | | Check the data changes to “01”. |

Note 2: The adjustment data will be automatically input to page: F, address: 29 to 2D.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

6. Mechanical Shutter Adjustment RadarW

Adjust the period which the mechanical shutter is closed, and compensate the exposure.

| | |
|--------------------|--|
| Mode | CAMERA |
| Subject | Clear chart (Standard picture frame with the zoom lens at WIDE end) |
| Adjustment Page | F |
| Adjustment Address | 5A, 6C to 7F |

Note 1: Check that the data of page: 6, address: 02 is “00”.
If not, turn the power of unit OFF/ON.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 2 | | | | Perform “Picture Frame setting”. (Refer to page 5-17) |
| 3 | 6 | 01 | AD | Press PAUSE button. (Note 2) |
| 4 | 6 | 02 | | Check the data changes to “01”. |
| 5 | 6 | AB | | Check the data is “00”. |

Note 2: The adjustment data will be automatically input to page: F, address: 5A, 6C to 7F.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

7. Light Value Adjustment



Adjust the standard LV value.

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Clear chart (Standard picture frame with the zoom lens at WIDE end) |
| Measurement Point | Displayed data of page: 1 (Note 2) and page: F, address: 28 |
| Measuring Instrument | Adjusting remote commander |
| Adjustment Page | F |
| Adjustment Address | 26 to 28 |
| Specified Value | FD100 (Note 3): TYPE PA: AE level 1: 0FE0 to 1020 AE level 2: 20 to 60 TYPE SO: AE level 1: 0FE0 to 1020 AE level 2: 28 to 48 FD200: AE level 1: 0FE0 to 1020 AE level 2: 30 to 50 |

Note 1: Check that the data of page: 6, address: 02 is "00".

If not, turn the power of unit OFF/ON.

Note 2: The right four digits of the page: 1 displayed data of the adjusting remote commander.

1:XX:XX

└──────────┘ Displayed data

Note 3: Type of CCD imager is different according to the CD board in MVC-FD100.

Refer to page 7 to discriminate the type of CCD.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | | | | Perform "Data setting during camera system adjustment". (Refer to page 5-16) |
| 2 | | | | Perform "Picture Frame setting". (Refer to page 5-17) |
| 3 | 6 | 01 | 0D | Press PAUSE button. (Note 4) |
| 4 | 6 | 02 | | Check the data changes to "01". |
| 5 | 0 | 03 | 06 | |
| 6 | 1 | | | Check that the displayed data (Note 2) satisfies the AE level 1 specified value. |
| 7 | F | 28 | | Check that the displayed data satisfies the AE level 2 specified value. |

Note 4: The adjustment data will be automatically input to page:

F, address: 26 to 28.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 0 | 03 | 00 | |
| 2 | 6 | 01 | 00 | Press PAUSE button. |
| 3 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

8. Mixed Color Cancel Adjustment

To perform mixed color cancel adjustment based on data of each color in color bar.

| | |
|----------------------|--|
| Mode | CAMERA |
| Subject | Color bar chart (Standard picture frame with the zoom lens at WIDE end) |
| Measurement Point | Displayed data of page: F, address :A0 (Note 2) |
| Measuring Instrument | Adjusting remote commander |
| Adjustment Page | F |
| Adjustment Address | A0 to A3 |
| Specified Value | Check data : Except 3. (Note 2) |

Note 1: Check that the data of page: 6, address: 02 is “00”.
If not, turn the power of unit OFF/ON.

Note 2: Displayed data of page: F, address: A0 of the adjusting remote commander.

F:XX:A0
└─── Check data

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 2 | | | | Perform “Picture Frame setting”. (Refer to page 5-17) |
| 3 | 6 | 01 | D7 | Press PAUSE button. |
| 4 | 6 | 01 | D5 | Press PAUSE button. (Note 3) |
| 5 | 6 | 02 | | Check the data changes to “01”. |
| 6 | F | A0 | | Check that the check data satisfies the specified value. (Note 2) |

Note 3: The adjustment data will be automatically input to page: F, address: A0 and A3.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |
| 3 | 0 | 01 | 00 | |

9. Auto White Balance Standard Data Input

Adjust the white balance standard data at 3200K.

| | |
|--------------------|--|
| Mode | CAMERA |
| Subject | Clear chart (Standard picture frame with the zoom lens at WIDE end) |
| Adjustment Page | F |
| Adjustment Address | 3A to 3D, 59 |

Note 1: Check that the data of page: 6, address: 02 is “00”.
If not, turn the power of unit OFF/ON.

Note 2: “Auto White Balance Standard Data Input” is available only once after the power is turned on. Turn the power off, then on again if the adjustment is retried.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 2 | | | | Perform “Picture Frame setting”. (Refer to page 5-17) |
| 3 | 6 | 01 | 11 | Press PAUSE button. |
| 4 | 6 | 01 | 0B | Press PAUSE button. (Note 3) |
| 5 | 6 | 02 | | Check the data changes to “01”. |

Note 3: The adjustment data will be automatically input to page: F, address: 3A to 3D and 59.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

10. Auto White Balance Adjustment

Adjust the white balance standard data at 5800K.

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Clear chart (Standard picture frame with the zoom lens at WIDE end) |
| Filter | Filter C14 for color temperature correction |
| Measurement Point | Displayed data of page: 1 (Note 3) |
| Measuring Instrument | Adjusting remote commander |
| Adjustment Page | F |
| Adjustment Address | 3F, 40, 80, A9, AA |
| Specified Value | FD100 (Note 5): TYPE PA: R ratio: 2921 to 2AA1 B ratio: 5EE0 to 6060 TYPE SO: R ratio: 25C4 to 2744 B ratio: 604B to 61CB FD200: R ratio: 25F1 to 2771 B ratio: 6610 to 6790 |

Note 1: Perform “Auto White Balance Standard Data Input” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”.
If not, turn the power of unit OFF/ON.

Note 3: The right 4 digits of the page: 1 displayed data of the adjusting remote commander.

1:XX:XX

_____ Displayed data

Note 4: “Auto White Balance Adjustment” is available only once after the power is turned on. Turn the power off, then on again if the adjustment is retried.

Note 5: Type of CCD imager is different according to the CD board in MVC-FD100.

Refer to page 7 to discriminate the type of CCD.

Note 6: Check the CCD TYPE and input the following data in page: F, address: 49 to 4C.

| Address | FD100 | | FD200 |
|---------|---------|---------|-------|
| | TYPE PA | TYPE SO | |
| 49 | 29 | 26 | 26 |
| 4A | E1 | 84 | B1 |
| 4B | 5F | 61 | 66 |
| 4C | A0 | 0B | D0 |

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|----------------------|------|---|
| 1 | | | | Place the C14 filter on the lens. |
| 2 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 3 | | | | Perform “Picture Frame setting”. (Refer to page 5-17) |
| 4 | 6 | 01 | A7 | Press PAUSE button. |
| 5 | F | 49 4A 4B 4C | | Note down the data. |
| 6 | F | 49 4A 4B 4C | → | Set the data (Note 6) Press PAUSE button. |
| 7 | | | | Wait for 2 seconds. |
| 8 | 6 | 01 | A5 | Press PAUSE button. (Note 7) |
| 9 | 6 | 02 | | Check the data changes to “01”. |
| 10 | 6 | 01 | 3F | Press PAUSE button. |
| 11 | | | | Wait for 2 seconds. |
| 12 | 0 | 03 | 04 | |
| 13 | 1 | | | Check that the displayed data (Note 3) satisfied the R ratio specified value. |
| 14 | 0 | 03 | 05 | |
| 15 | 1 | | | Check that the displayed data (Note 3) satisfied the B ratio specified value. |

Note 7: The adjustment data will be automatically input to page: F, address: 3F, 40, 80, A9 and AA.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|----------------------|------|--|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | 0 | 03 | 00 | |
| 3 | 6 | 13 | 00 | |
| 4 | F | 49 4A 4B 4C | | Set the data noted down at step 5, and press PAUSE button. |
| 5 | | | | Release the data setting performed at step 2. (Refer to page 5-16) |
| 6 | | | | Remove the C14 filter on the lens. |

11. Auto White Balance 5800K Check

| | | |
|----------------------|--|---|
| Mode | CAMERA | |
| Subject | Clear chart (Standard picture frame with the zoom lens at WIDE end) | |
| Filter | Filter C14 for color temperature correction | |
| Measurement Point | Displayed data of Page: 1 (Note 2) | Video terminal of VIDEO OUT jack (75 Ω terminated) |
| Measuring Instrument | Adjusting remote commander | Vectorscope |
| Specified Value | Fig. 5-1-17 | |

Note 1: Check that the data of page: 6, address: 02 is “00”.
If not, turn the power of unit OFF/ON.

Note 2: The right four digits of the page: 1 displayed data of the adjusting remote commander.

1:XX:XX

Displayed data

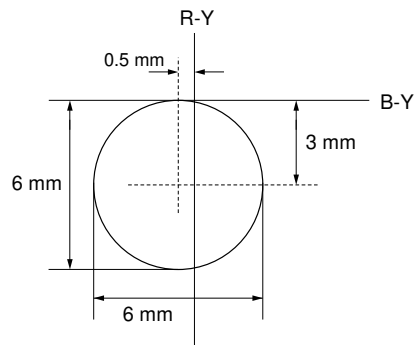
Checking method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | | | | Place the C14 filter on the lens. |
| 2 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 3 | | | | Perform “Picture Frame setting”. (Refer to page 5-17) |
| 4 | E | 52 | | Note down the data. |
| 5 | E | 52 | 45 | Press PAUSE button. |
| 6 | 6 | 01 | 3F | Press PAUSE button. |
| 7 | | | | Check that the center of the white luminance point within the circle shown Fig 5-1-17. |

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | E | 52 | | Set data noted down at step 4, and press PAUSE button. |
| 3 | | | | Release the data setting performed at step 2. (Refer to page 5-16) |
| 4 | | | | Remove the C14 filter on the lens. |

FD100 :



FD200 :

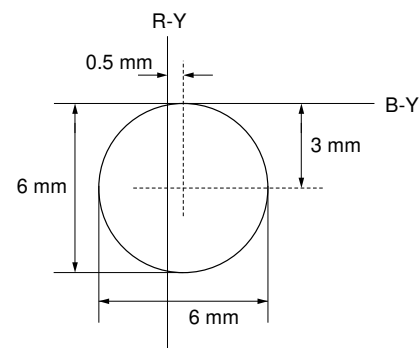


Fig. 5-1-17

12. Auto White Balance 3200K Check



| | | |
|----------------------|--|--|
| Mode | CAMERA | |
| Subject | Clear chart (Standard picture frame with the zoom lens at WIDE end) | |
| Measurement Point | Displayed data of Page: 1 (Note 2) | Video terminal of VIDEO OUT jack (75 Ω terminated) |
| Measuring Instrument | Adjusting remote commander | Vectorscope |
| Specified Value | R ratio: 3E00 to 4200 B ratio: 3E00 to 4200 | Fig. 5-1-18 |

Note 1: Check that the data of page: 6, address: 02 is "00".
If not, turn the power of unit OFF/ON.

Note 2: The right four digits of the page: 1 displayed data of the adjusting remote commander.

1:XX:XX

— Displayed data

Checking method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | | | | Perform "Data setting during camera system adjustment". (Refer to page 5-16) |
| 2 | | | | Perform "Picture Frame setting". (Refer to page 5-17) |
| 3 | E | 52 | | Note down the data. |
| 4 | E | 52 | 45 | Press PAUSE button. |
| 5 | 6 | 01 | 0F | Press PAUSE button. |
| 6 | 0 | 03 | 04 | |
| 7 | 1 | | | Check that the displayed data (Note 2) satisfied the R ratio specified value. |
| 8 | 0 | 03 | 05 | |
| 9 | 1 | | | Check that the displayed data (Note 2) satisfied the B ratio specified value. |
| 10 | | | | Check that the center of the white luminance point within the circle shown Fig 5-1-18. |

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | 0 | 03 | 00 | |
| 3 | E | 52 | | Set data noted down at step 3, and press PAUSE button. |
| 4 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

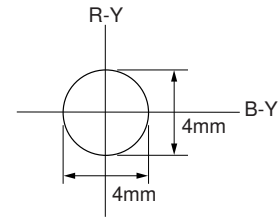


Fig. 5-1-18

13. Color Reproduction Adjustment

RadarW

Adjust the color separation matrix coefficient so that proper color reproduction is produced.

| | |
|--------------------|--|
| Mode | CAMERA |
| Subject | Color bar chart (Standard picture frame with the zoom lens at WIDE end) |
| Adjustment Page | F |
| Adjustment Address | 41 to 48, 5C to 5F |

Note 1: Check that the data of page: 6, address: 02 is "00".

If not, turn the power of unit OFF/ON.

Note 2: "Color Reproduction Adjustment" is available only once after the power is turned on. Turn the power off, then on again if the adjustment is retried.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform "Data setting during camera system adjustment". (Refer to page 5-16) |
| 2 | | | | Perform "Picture Frame setting". (Refer to page 5-17) |
| 3 | 6 | 01 | AB | Press PAUSE button. |
| 4 | 6 | 12 | 80 | |
| 5 | | | | Wait for 1 second. |
| 6 | 6 | 12 | 00 | |
| 7 | | | | Wait for 2 seconds. |
| 8 | 6 | 01 | A9 | Press PAUSE button. (Note 3) |
| 9 | 6 | 02 | | Check the data changes to "01". |

Note 3: The adjustment data will be automatically input to page: F, address: 41 to 48 and 5C to 5F.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

14. Color Reproduction Check

RadarW

| | |
|----------------------|--|
| Mode | CAMERA |
| Subject | Color bar chart (Standard picture frame with the zoom lens at WIDE end) |
| Measurement Point | Video terminal of VIDEO OUT jack (75 Ω terminated) |
| Measuring Instrument | Vectorscope |
| Specified Value | All color luminance points should settle within each color reproduction frame. |

Menu setting:

- 1) VIDEO OUT of SET UP menu
 NTSC (NTSC mode)
 PAL (PAL mode)

Note 1: Check that the data of page: 6, address: 02 is "00".
 If not, turn the power of unit OFF/ON.

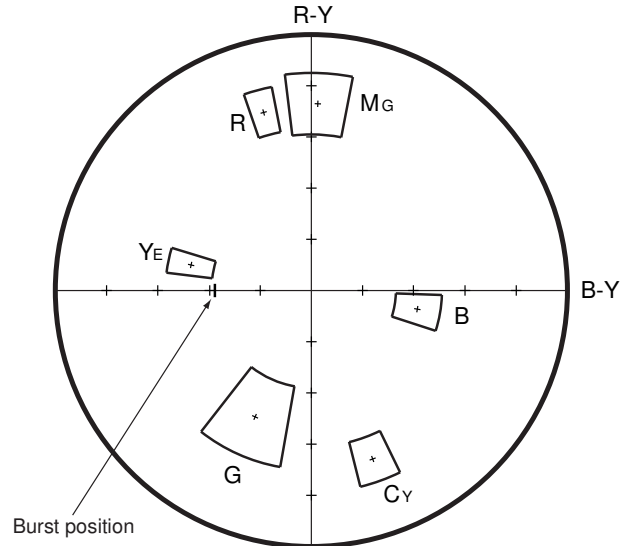
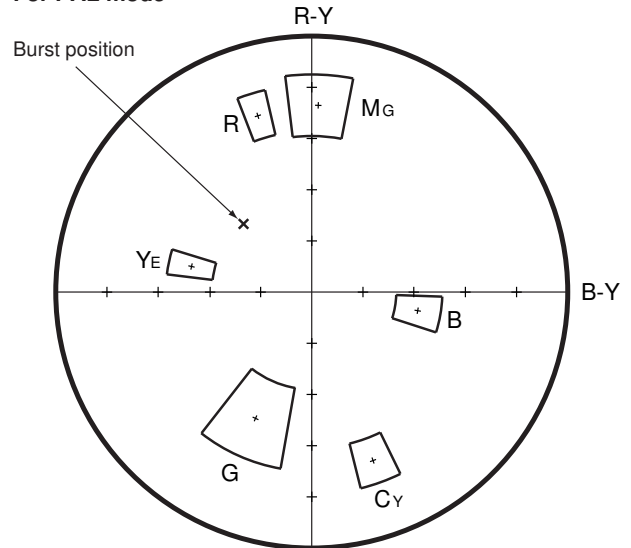
Checking method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | | | | Perform "Data setting during camera system adjustment". (Refer to page 5-16) |
| 2 | | | | Perform "Picture Frame setting". (Refer to page 5-17) |
| 3 | 6 | 10 | 01 | |
| 4 | E | 52 | | Note down the data. |
| 5 | E | 52 | → | Set the following data, and press PAUSE button. FD100 (Note 2) 0A: TYPE PA 08: TYPE SO FD200 07 |
| 6 | 6 | 01 | 0F | Press PAUSE button. |
| 7 | 6 | 12 | 80 | |
| 8 | | | | Wait for 1 second. |
| 9 | 6 | 12 | 00 | |
| 10 | | | | Wait for 2 seconds. |
| 11 | | | | Check the each color luminance point is in each color reproduction frame. |

Note 2: Type of CCD imager is different according to the CD board in MVC-FD100.
 Refer to page 7 to discriminate the type of CCD.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | 6 | 10 | 00 | |
| 3 | E | 52 | | Set data noted down at step 4, and press PAUSE button. |
| 4 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

For NTSC mode**Fig. 5-1-19****For PAL mode****Fig. 5-1-20**

15. CCD White Defect Compensation

RedarW

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Not required |
| Measurement Point | Displayed data of page: 6, address: 55 |
| Measuring Instrument | Adjusting remote commander |
| Adjustment Page | 7 |
| Adjustment Address | 88 to FF |

Note 1: Check that the data of page: 6, address: 02 is “00”.

If not, turn the power of unit OFF/ON.

Note 2: The “CCD White Defect Compensation” should be made when the set warms up at certain duration after the power was turned on, as it is affected with the temperature.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 2 | F | DE | | Note down the data. |
| 3 | F | DE | 1E | Press PAUSE button. |
| 4 | F | E3 | | Note down the data. |
| 5 | F | E3 | 0E | Press PAUSE button. |
| 6 | 6 | 01 | 8B | Press PAUSE button. (Note 3) |
| 7 | 6 | 02 | | Check the data changes to “01”. |
| 8 | 6 | 55 | | Check the data. 00 to 7F: Normal 80 to FF: Defective |
| 9 | 6 | 01 | 00 | Press PAUSE button. |
| 10 | F | DE | 0F | Press PAUSE button. |
| 11 | F | E3 | 60 | Press PAUSE button. |
| 12 | 6 | 01 | 87 | Press PAUSE button. |
| 13 | 6 | 02 | | Check the data changes to “01”. |
| 14 | 6 | 55 | | Check the data. 00: Normal 01 to FF: Defective |

Note 3: The adjustment data will be automatically input to page: 7, address: 88 to FF.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | F | DE | | Set data noted down at step 3, and press PAUSE button. |
| 3 | F | E3 | | Set data noted down at step 5, and press PAUSE button. |
| 4 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

16. CCD Black Defect Compensation

Refer W

| | |
|----------------------|--|
| Mode | CAMERA |
| Subject | Clear chart (Standard picture frame with the zoom lens at WIDE end) |
| Measurement Point | Displayed data of page: 6, address: 55 |
| Measuring Instrument | Adjusting remote commander |
| Adjustment Page | 7 |
| Adjustment Address | 60 to 87 |

Note 1: Check that the data of page: 6, address: 02 is "00".
If not, turn the power of unit OFF/ON.

Note 2: Check that there are no dust, no dirt and reflection of the clear chart.

Note 3: Any subject other than the clear chart should be in the screen.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform "Data setting during camera system adjustment". (Refer to page 5-16) |
| 2 | F | DF | | Note down the data. |
| 3 | F | DF | 4C | Press PAUSE button. |
| 4 | 6 | 2C | 01 | |
| 5 | 6 | 90 | 00 | |
| 6 | 6 | 91 | 03 | |
| 7 | 6 | 92 | 00 | |
| 8 | 6 | 93 | 00 | |
| 9 | 6 | 01 | 79 | Press PAUSE button. |
| 10 | 6 | 30 | 01 | |
| 11 | 6 | 07 | | Check the data changes to "01". |
| 12 | 6 | 01 | 8D | Press PAUSE button. (Note 4) |
| 13 | 6 | 02 | | Check the data changes to "01". |
| 14 | 6 | 55 | | Check the data. 00 to 0A : Normal 0B to FF : Defective |
| 15 | 6 | 01 | 00 | Press PAUSE button. |
| 16 | F | DF | 5A | Press PAUSE button. |
| 17 | 6 | 01 | 89 | Press PAUSE button. |
| 18 | 6 | 02 | | Check the data changes to "01". |
| 19 | 6 | 55 | | Check the data. 00: Normal 01 to FF: Defective |

Note 4: The adjustment data will be automatically input to page: 7, address: 60 to 87.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | 6 | 2C | 00 | |
| 3 | 6 | 30 | 00 | |
| 4 | 6 | 91 | 00 | |
| 5 | F | DF | | Set data noted down at step 2, and press PAUSE button. |
| 6 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

17. Strobe White Balance Adjustment



Adjust the white balance when the strobe light flashed.

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Flash adjustment box (Note 3) (1 m from the front of lens) |
| Measurement Point | Displayed data of page: 1 (Note 4) and page: F, address: 64 |
| Measuring Instrument | Adjusting remote commander |
| Adjustment Page | F |
| Adjustment Address | 4D, 4E, 64, 69 to 6B |
| Specified Value | Y level data: 60 to 94 (Note 5) R-Y level data: FA to FF or 00 to 06 (Note 4) B-Y level data: FA to FF or 00 to 06 (Note 4) |

Note 1: Check that the data of page: 6, address: 02 is “00”.

If not, turn the power of unit OFF/ON.

Note 2: Perform this adjustment in the Flash adjustment box.

Do not block the photocell window for flash.

Restrict external light to enter the photocell window for flash as less as possible.

Note 3: Refer to “4. Preparing the Flash adjustment box”.

(See page 5-7)

Note 4: The right four digits of the page: 1 displayed data of the adjusting remote commander.

1:XX:XX

B-Y level data

R-Y level data

Note 5: Displayed data of page: F, address: 64 of the adjusting remote commander.

F:XX:64

Y level data

Note 6: “Strobe White Balance Adjustment” is available only once after the power is turned on. Turn the power off, then on again if the adjustment is retried.

Switch setting:

1) FLASH (Control button) ON

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform “Data setting during camera system adjustment”. (Refer to page 5-16) |
| 2 | 6 | 90 | 00 | |
| 3 | 6 | 91 | 00 | |
| 4 | 6 | 92 | FF | |
| 5 | 6 | 93 | FF | |
| 6 | 6 | 6C | 01 | |
| 7 | 6 | 2C | 01 | |
| 8 | 6 | 01 | 79 | Press PAUSE button. |
| 9 | 6 | 07 | | Check the data changes to “01” |
| 10 | 6 | 01 | 67 | Press PAUSE button. |
| 11 | | | | Check the flashing. |
| 12 | 6 | 02 | | Check the data changes to “01” |
| 13 | 6 | 01 | 00 | Press PAUSE button. |
| 14 | 6 | 01 | 67 | Press PAUSE button. |
| 15 | | | | Check the flashing. |

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 16 | 6 | 02 | | Check the data changes to “01” |
| 17 | 6 | 01 | 00 | Press PAUSE button. |
| 18 | 7 | 03 | 05 | Press PAUSE button. FD100: TYPE SO only (Note 8) |
| 19 | 6 | 01 | B9 | Press PAUSE button. (Note 7) |
| 20 | | | | Check the flashing. |
| 21 | 6 | 02 | | Check the data changes to “01” |
| 22 | | | | Wait for 3 seconds. |
| 23 | 6 | 01 | 00 | Press PAUSE button. |
| 24 | 7 | 03 | 04 | Press PAUSE button. FD100: TYPE SO only (Note 8) |
| 25 | 6 | 01 | 67 | Press PAUSE button. |
| 26 | | | | Check the flashing. |
| 27 | 6 | 02 | | Check the data changes to “01” |
| 28 | F | 64 | | Check that the data satisfies the Y level data satisfied value. (Note 5) |
| 29 | 0 | 03 | 02 | |
| 30 | 1 | | | Check that the R-Y, B-Y level data (Note 4) satisfies the specified value. |

Note 7: The adjustment data will be automatically input to page:

F, address: 4D, 4E, 64 and 69 to 6B.

Note 8: Type of CCD imager is different according to the CD board in MVC-FD100.

Refer to page 7 to discriminate the type of CCD.

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | 6 | 2C | 00 | |
| 3 | 6 | 6C | 00 | |
| 4 | 6 | 92 | 00 | |
| 5 | 6 | 93 | 00 | |
| 6 | 0 | 03 | 00 | |
| 7 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

18. CCD Linearity Check

Check that CCD output keeps being straight even ISO sensitivity is changed.

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Clear chart (Standard picture frame with the zoom lens at WIDE end) |
| Measurement Point | Displayed data of Page: 1 (Note 1) |
| Measuring Instrument | Adjusting remote commander |
| Specified Value | FD100 (Note 2): TYPE PA: R ratio: 3D00 to 4300 B ratio: 3D00 to 4300 TYPE SO: R ratio: 3900 to 4700 B ratio: 3900 to 4700 FD200: R ratio: 3D00 to 4300 B ratio: 3D00 to 4300 |

Note 1: The right four digits of the page: 1 displayed data of the adjusting remote commander.

1:XX:XX

————— Displayed data

Note 2: Type of CCD imager is different according to the CD board in MVC-FD100.

Refer to page 7 to discriminate the type of CCD.

Checking method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | | | | Perform "Data setting during camera system adjustment". (Refer to page 5-16) |
| 2 | | | | Perform "Picture Frame setting". (Refer to page 5-17) |
| 3 | 6 | 01 | 0F | Press PAUSE button. |
| 4 | 6 | 14 | | Note down the data. |
| 5 | 6 | 14 | 8B | |
| 6 | 0 | 03 | 04 | |
| 7 | 1 | | | Check that the displayed data (Note 1) satisfied the R ratio specified value. |
| 8 | 0 | 03 | 05 | |
| 9 | 1 | | | Check that the displayed data (Note 1) satisfied the B ratio specified value. |
| 10 | 6 | 14 | 90 | |
| 11 | 6 | 12 | | Note down the data. |
| 12 | 6 | 12 | | Set the following data, and press PAUSE button. FD100: 9E FD200: 9D |
| 13 | | | | Wait for 1 second. |
| 14 | 0 | 03 | 04 | |
| 15 | 1 | | | Check that the displayed data (Note 1) satisfied the R ratio specified value. |
| 16 | 0 | 03 | 05 | |

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 17 | 1 | | | Check that the displayed data (Note 1) satisfied the B ratio specified value. |

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 6 | 01 | 00 | Press PAUSE button. |
| 2 | 6 | 12 | | Set data noted down step 11, and press PAUSE button. |
| 3 | 6 | 14 | | Set data noted down step 4, and press PAUSE button. |
| 4 | 0 | 03 | 00 | |
| 5 | | | | Release the data setting performed at step 1. (Refer to page 5-16) |

1-5. LCD SYSTEM ADJUSTMENTS

Before perform the LCD system adjustments, check that the specified values of “VIDEO SYSTEM ADJUSTMENTS” are satisfied.

- Note 1:** The back light (fluorescent tube) is driven with high voltage AC power. Therefore, do not touch the back light directly, otherwise you will feel an electric shock.
- Note 2:** Taken an extreme care not to destroy the liquid crystal display module by static electricity when replacing it.
- Note 3:** Set the LCD BRIGHT (Menu display) to the center.

[Adjusting connector]

Most of the measuring points for adjusting the LCD system are concentrated in CN803 of the FC-89 board. Connect the Measuring Instruments via the CPC-12 jig (J-6082-436-A).

The following table shows the Pin No. and signal name of CN803.

| Pin No. | Signal Name | Pin No. | Signal Name |
|---------|-------------|---------|-------------|
| 1 | FDDRF_B | 12 | LANC_OUT |
| 2 | FDDRF_A | 13 | MAKER_RECOG |
| 3 | INDEX | 14 | PF7 |
| 4 | REG_GND | 15 | TXD |
| 5 | N. C. | 16 | RXD |
| 6 | TRACK_00 | 17 | RESET |
| 7 | HSY | 18 | EVER_3.2 V |
| 8 | COM | 19 | N.C. |
| 9 | VG | 20 | N.C. |
| 10 | HI_UNREG | 21 | N.C. |
| 11 | LANC_IN | 22 | N.C. |

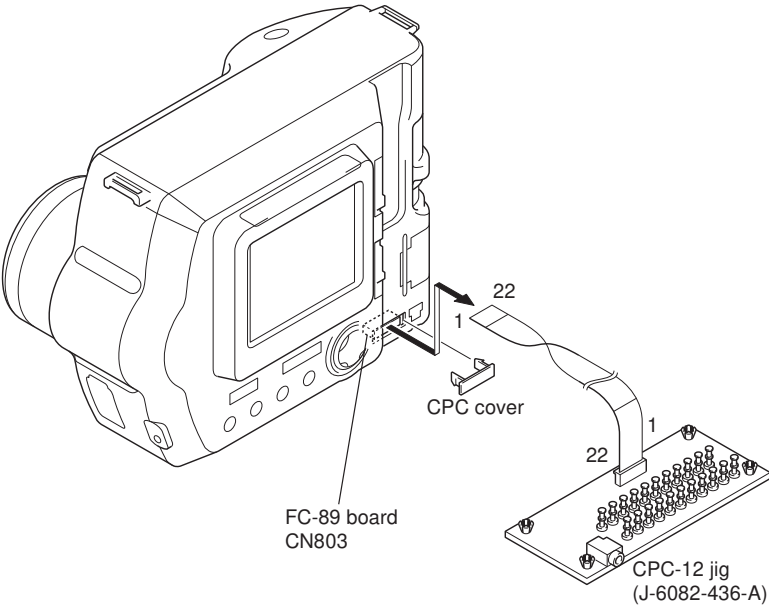


Fig. 5-1-21

1. LCD Initial Data Input

| | |
|--------------------|-----------|
| Mode | PLAY |
| Signal | Arbitrary |
| Adjustment Page | D |
| Adjustment Address | D0 to DF |

Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, and enter the data given in the following table.

Note: Press the PAUSE button each time the data are set, as the data are written to non-volatile memory (EEPROM).

| Address | Data | Remark |
|---------|------|--------------------------|
| D0 | 82 | Bright Adjustment |
| D1 | AB | Fixed value |
| D2 | 80 | White Balance Adjustment |
| D3 | B8 | |
| D4 | CC | Contrast Adjustment |
| D5 | 5E | Black Limit Adjustment |
| D6 | 80 | VG Center Adjustment |
| D7 | 78 | VCO Adjustment (NTSC) |
| D8 | 60 | V-COM Adjustment |
| D9 | 6C | Fixed value |
| DA | 64 | P-SIG Level Adjustment |
| DB | 00 | Fixed value |
| DC | AA | |
| DD | 84 | VCO Adjustment (PAL) |
| DE | 44 | Fixed value |
| DF | 00 | |

Processing after Completing Adjustments:

- 1) Select page: 0, address: 01, and set data: 00.

2. VCO Adjustment (PK-61 Board)

Set the VCO free-run frequency. If deviated, the LCD screen will be blurred.

| | |
|----------------------|---|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | CH1: Pin 7 of CN803 on FC-89 board (HSY) CH2: Video terminal of VIDEO OUT jack (75 Ω terminated) |
| Measuring Instrument | Oscilloscope |
| Adjustment Page | D |
| Adjustment Address | D7 (NTSC) DD (PAL) |
| Specified Value | NTSC: $T = 2.05 \pm 0.1 \mu s$ PAL: $T = 3.15 \pm 0.1 \mu s$ |

Menu setting:

- 1) VIDEO OUT of SET UP menu
..... NTSC (NTSC mode)
(This adjustment must be performed in NTSC mode, so don't set the menu setting to "PAL")

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 0 | 01 | 01 | |
| 2 | D | D7 | | Change the data and set the phase difference (T) to the NTSC specified value. |
| 3 | D | D7 | | Press PAUSE button. |
| 4 | D | DD | | Change the data and set the phase difference (T) to the PAL specified value. |
| 5 | D | DD | | Press PAUSE button. |

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 0 | 01 | 00 | |

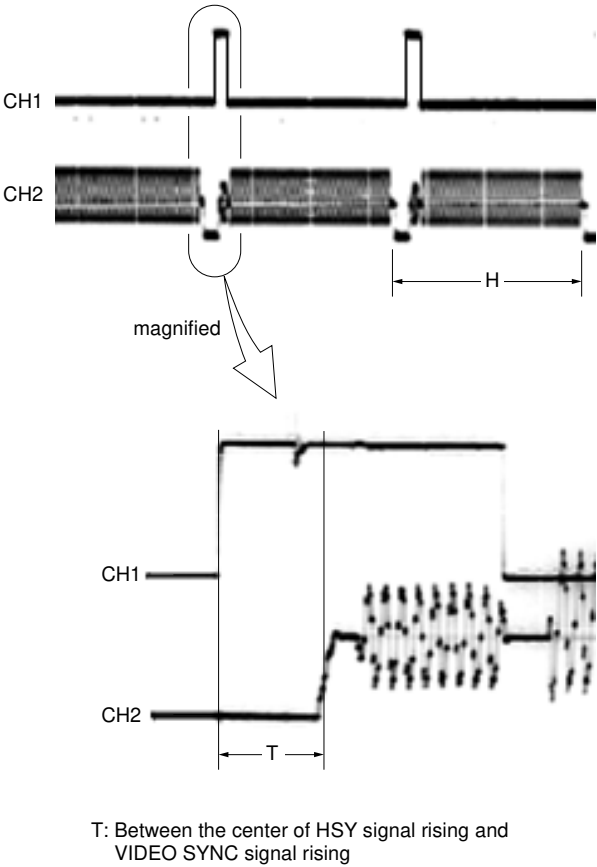


Fig. 5-1-22

3. Black Limit Adjustment (PK-61 Board)

Set the maximum amplitude of the RGB decoder for driving the LCD to the specified value.

If deviated, the LCD screen image will be blackish or saturated (whitish).

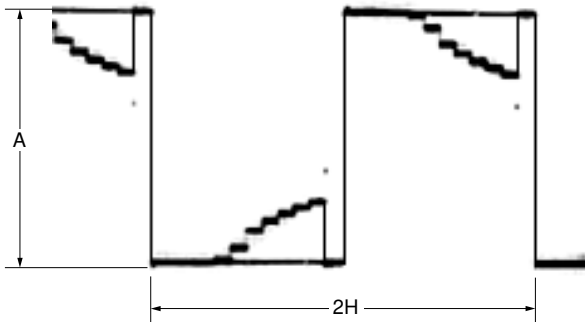
| | |
|----------------------|---|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | Pin 9 of CN803 on FC-89 board (VG) External trigger: Pin 8 of CN803 on FC-89 board (COM) |
| Measuring Instrument | Oscilloscope |
| Adjustment Page | D |
| Adjustment Address | D5 |
| Specified Value | $A = 8.20 \pm 0.1 \text{ Vp-p}$ |

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 0 | 01 | 01 | |
| 2 | 5 | F1 | 03 | |
| 3 | D | D0 | 20 | Set the data. (Don't press PAUSE button.) |
| 4 | D | D5 | | Change the data and set the voltage (A) to the specified value. |
| 5 | D | D5 | | Press PAUSE button. |

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 5 | F1 | 00 | |
| 2 | 0 | 01 | 00 | |



A: Between the reversed waveform peak and non-reversed waveform peak

Fig. 5-1-23

4. Bright Adjustment (PK-61 Board)

Set the amplitude of the RGB decoder for driving the LCD to the specified value.

If deviated, the LCD screen image will be blackish or saturated (whitish).

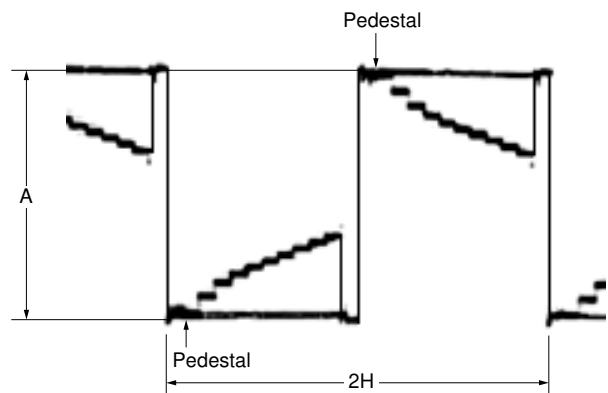
| | |
|----------------------|---|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | Pin 9 of CN803 on FC-89 board (VG) External trigger: Pin 8 of CN803 on FC-89 board (COM) |
| Measuring Instrument | Oscilloscope |
| Adjustment Page | D |
| Adjustment Address | D0 |
| Specified Value | $A = 7.80 \pm 0.1 \text{ Vp-p}$ |

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 0 | 01 | 01 | |
| 2 | 5 | F1 | 03 | |
| 3 | D | D0 | | Change the data and set the voltage (A) to the specified value. |
| 4 | D | D0 | | Press PAUSE button. |

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 5 | F1 | 00 | |
| 2 | 0 | 01 | 00 | |



A: Between the reversed waveform pedestal and non-reversed waveform pedestal

Fig. 5-1-24

5. Contrast Adjustment (PK-61 Board)

Set the level of the VIDEO signal for driving the LCD to the specified value.
If deviated, the LCD screen image will be blackish or saturated (whitish).

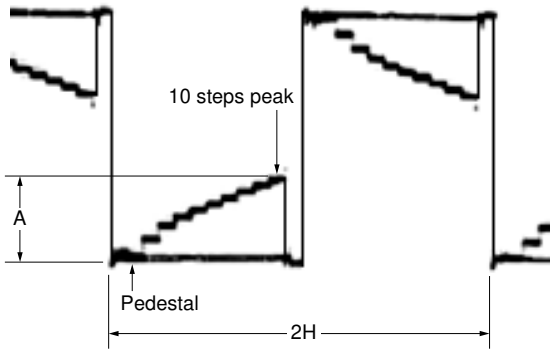
| | |
|----------------------|---|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | Pin 9 of CN803 on FC-89 board (VG) External trigger: Pin 8 of CN803 on FC-89 board (COM) |
| Measuring Instrument | Oscilloscope |
| Adjustment Page | D |
| Adjustment Address | D4 |
| Specified Value | A = 2.45 ± 0.05 Vp-p |

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 0 | 01 | 01 | |
| 2 | 5 | F1 | 03 | |
| 3 | D | D4 | | Change the data and set the voltage (A) to the specified value. |
| 4 | D | D4 | | Press PAUSE button. |

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 5 | F1 | 00 | |
| 2 | 0 | 01 | 00 | |



A: Between the pedestal and 10 setps peak

Fig. 5-1-25

6. VG Center Adjustment (PK-61 Board)

Set the center of VG signal for driving the LCD to the specified value.

| | |
|----------------------|------------------------------------|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | Pin 9 of CN803 on FC-89 board (VG) |
| Measuring Instrument | Digital voltmeter |
| Adjustment Page | D |
| Adjustment Address | D6 |
| Specified Value | A = 7.00 ± 0.05 V |

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|--|
| 1 | 0 | 01 | 01 | |
| 2 | 5 | F1 | 02 | |
| 3 | D | D6 | | Change the data and set the DC voltage (A) to the specified value. |
| 4 | D | D6 | | Press PAUSE button. |

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 5 | F1 | 00 | |
| 2 | 0 | 01 | 00 | |

7. P-SIG Level Adjustment (PK-61 Board)

This adjustment sets correctly the V-COM drive signal level of the LCD panel.

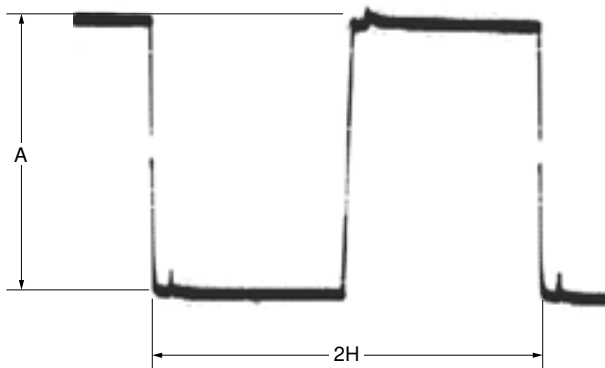
| | |
|----------------------|-------------------------------------|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | Pin 8 of CN803 on FC-89 board (COM) |
| Measuring Instrument | Oscilloscope |
| Adjustment Page | D |
| Adjustment Address | DA |
| Specified Value | $A=5.0 \pm 0.1$ Vp-p |

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|---|
| 1 | 0 | 01 | 01 | |
| 2 | D | DA | | Change the data and set the voltage (A) to the specified value. |
| 3 | D | DA | | Press PAUSE button. |

Processing after Completing Adjustment:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 0 | 01 | 00 | |

**Fig. 5-1-26**

8. V-COM Adjustment (PK-61 Board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.

If deviated, the LCD display will be move, producing flicker and conspicuous vertical lines.

| | |
|----------------------|--|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | Check on the LCD screen |
| Measuring Instrument | |
| Adjustment Page | D |
| Adjustment Address | D8 |
| Specified Value | The brightness difference between the section-A and section-B is minimum |

Note 1: Perform “Bright Adjustment” and “Contrast Adjustment” before this adjustment.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|-----------------|--|
| 1 | 0 | 01 | 01 | |
| 2 | 5 | F1 | 02 | |
| 3 | 2 | 10 | 02 | |
| 4 | D | D8 | | Change the data so that brightness of the section A and section B is equal. |
| 5 | D | D8 | | Read the data and this data is named Dref |
| 6 | | | | Convert Dref to decimal notation, and obtain Dref’ (Note 2) |
| 7 | | | | Calculate D _{D8} ’ using following equations (decimal calculation) |
| 8 | | | | $D_{D8}' = D_{ref}' - 9$ |
| 9 | | | | Convert D _{D8} ’ to a hexadecimal number, and obtain D _{D8} (Note 2) |
| 10 | D | D8 | D _{D8} | Press PAUSE button. |

Note 2: Refer to table 5-2-2. “Hexadecimal-decimal conversion table”

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 5 | F1 | 00 | |
| 2 | 2 | 10 | 00 | |
| 3 | 0 | 01 | 00 | |

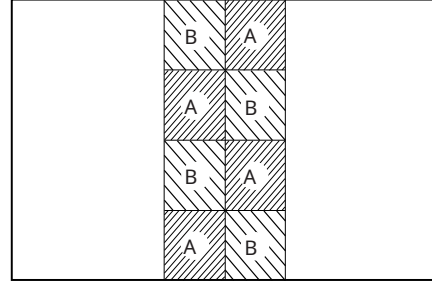


Fig. 5-1-27

9. White Balance Adjustment (PK-61 Board)

Correct the white balance.

If deviated, the LCD screen color cannot be reproduced.

| | |
|----------------------|--------------------------------|
| Mode | PLAY |
| Signal | Arbitrary |
| Measurement Point | Check on the LCD screen |
| Measuring Instrument | |
| Adjustment Page | D |
| Adjustment Address | D2, D3 |
| Specified Value | LCD screen must not be colored |

Note 1: Check the white balance only when replacing the following parts. If necessary, adjust them.

1. LCD panel
2. Light induction plate
3. IC901

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|----------|----------|---|
| 1 | 0 | 01 | 01 | |
| 2 | 5 | F1 | 02 | |
| 3 | D | D2 D3 | 80 B8 | Press PAUSE button. (Initial value) |
| 4 | | | | Check that the LCD screen is not colored. If not colored, proceed to "Processing after Completing Adjustments". |
| 5 | D | D2 D3 | | Change the data so that the LCD screen is not colored. (Note 2) |

Note 2: To write in the non-volatile memory (EEPROM), press the PAUSE button each time to set the data.

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 5 | F1 | 00 | |
| 2 | 0 | 01 | 00 | |

1-6. SYSTEM CONTROL SYSTEM ADJUSTMENTS

1. Battery Down Adjustment

Set the battery end voltage.
If the voltage is incorrect, the life of battery will shorten.
The image at the battery end will also be rough.

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Arbitrary |
| Measurement Point | Displayed data of page: 2, address: 52 |
| Measuring Instrument | Adjusting remote commander |
| Adjustment Page | D |
| Adjustment Address | 90 to 94 |

Connection:

- 1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 5-1-28.

Preparations before adjustment:

- 1) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is 6.1 ± 0.1 Vdc.
2) Turn on the HOLD switch of the adjusting remote commander.
3) Turn on the power supply.
4) Set the CAMERA mode.

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|----------|---|
| 1 | 0 | 01 | 01 | |
| 2 | | | | Decrease the output voltage of the regulated power supply so that digital voltmeter display is 5.55 ± 0.01 Vdc. |
| 3 | 2 | 52 | | Read the data and this data is named Dref |
| 4 | D | 90 | Dref | Press PAUSE button. |
| 5 | | | | Convert Dref to decimal notation and obtain Dref'. (Note) |
| 6 | | | | Calculate D_{91}' , D_{92}' , D_{93}' and D_{94}' using following equations (decimal calculation). $D_{91}' = Dref' + 5$ $D_{92}' = Dref' + 23$ $D_{93}' = Dref' + 44$ $D_{94}' = Dref' + 55$ |
| 7 | | | | Convert D_{91}' , D_{92}' , D_{93}' and D_{94}' to a hexadecimal number, and obtain D_{91} , D_{92} , D_{93} and D_{94} . (Note) |
| 8 | D | 91 | D_{91} | Press PAUSE button. |
| 9 | D | 92 | D_{92} | Press PAUSE button. |
| 10 | D | 93 | D_{93} | Press PAUSE button. |
| 11 | D | 94 | D_{94} | Press PAUSE button. |

Note: Refer to table 5-2-2 "Hexadecimal-decimal conversion table".

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 0 | 01 | 00 | |

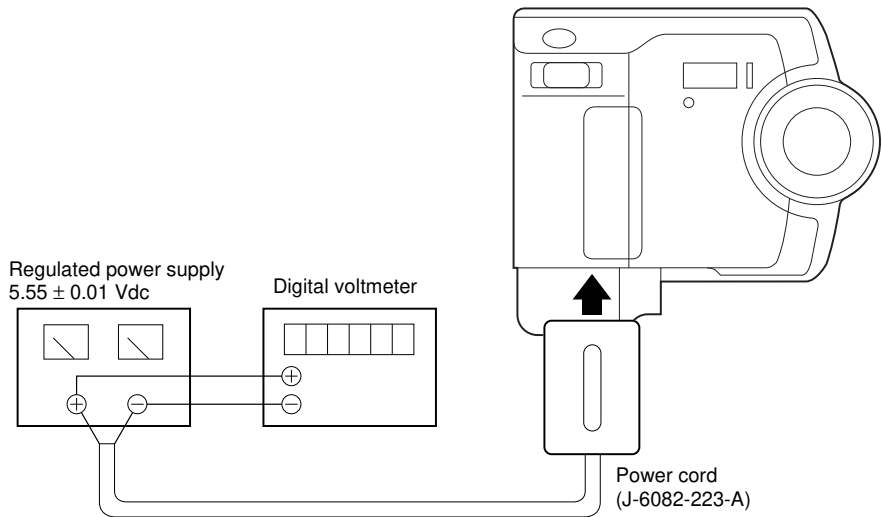


Fig. 5-1-28

2. ZOOM Center Adjustment

Set normal position (center value) of ZOOM lever.

| | |
|----------------------|---|
| Mode | CAMERA |
| Subject | Arbitrary |
| Measurement Point | Displayed data of page: 2 address: 5C (Note 2) |
| Measuring Instrument | Adjusting remote commander |
| Adjustment Page | D |
| Adjustment Address | 89 |

Note 1: Before adjustment, make sure that the ZOOM lever is in mechanical center position.

Note 2: Displayed data of page: 2, address: 5C of the adjusting remote commander.

2:XX:5C
|
Displayed data

Adjusting method:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|-----------------|--|
| 1 | 0 | 01 | 01 | |
| 2 | 2 | 5C | | Check the data 5D to 99: Normal 00 to 5C or 9A to FF: Defective |
| 3 | 2 | 5C | | Read the data and this data is named Dref |
| 4 | | | | From Table 5-1-2, obtain D ₈₉ that correspond to Dref. |
| 5 | D | 89 | D ₈₉ | Press PAUSE button. |

| | |
|----------|-----------------|
| Dref | D ₈₉ |
| 5D to 6B | 6C |
| 6C to 8A | Dref |
| 8B to 99 | 8A |

Table 5-1-2

Processing after Completing Adjustments:

| Order | Page | Address | Data | Procedure |
|-------|------|---------|------|-----------|
| 1 | 0 | 01 | 00 | |

3. Alignment Check (FDD Unit)

Confirm that the FDD alignment is within the specifications. If deviated, reading and writing data from and to floppy disk become impossible.

Or compatibility of floppy disk with other machines can be lost.

| | |
|----------------------|---|
| Mode | PLAY |
| Signal | Alignment disks (TFD2-1 (+)) and (TFD2-2 (-)): Arbitrary signal |
| Measurement Point | Check on LCD screen |
| Measuring Instrument | |
| Specified Value | The playback pictures should be normal |

Checking method:

- 1) Disconnect the adjusting remote commander.
- 2) Insert the alignment disk TFD2-1 (+) (+17.5 μ m).
- 3) Playback arbitrary signal and check that the playback picture is normal.
- 4) Insert the alignment disk TFD2-2 (-) (-17.5 μ m).
- 5) Playback arbitrary signal and check that the playback picture is normal.

Alignment disk (Disk-1, Disk-2)

(A set of alignment disks consists of two disks as a pair.)

Disk-1: 8-967-990-01

(TFD2-1 (+)) (+17.5 μ m)

Disk-2: 8-967-990-11

(TFD2-2 (-)) (-17.5 μ m)

[Common signals in the disks]

| Data Code | Signal |
|--------------|-------------------------------|
| MVC-001C.JPG | Color bars |
| MVC-002M.JPG | Monoscope |
| MVC-003V.JPG | V. COM adjustment signal |
| MVC-004W.JPG | 100% white |
| MVC-005H.JPG | 50% white |
| MVC-006T.JPG | Stair-step signal of 10 steps |
| MVC-007R.JPG | Red single color |
| MVC-008G.JPG | Green single color |
| MVC-009B.JPG | Blue single color |
| MVC-010D.JPG | Camera color bars |
| MVC-011N.JPG | Camera monoscope |

- Contents of alignment disk-1
(Common signal) + (+17.5 μ m alignment)
- Contents of alignment disk-2
(Common signal) + (-17.5 μ m alignment)

5-2. SERVICE MODE

2-1. ADJUSTING REMOTE COMMANDER

The adjusting remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjusting remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Used the Adjusting Remote Commander

- 1) Connect the adjusting remote commander to the CN803 on the FC-89 board via CPC-12 jig (J-6082-436-A).
- 2) Adjust the HOLD switch of the adjusting remote commander to “HOLD” (SERVICE position).
- 3) Turn on the power with the POWER switch of the unit. If it has been properly connected, the LCD on the adjusting remote commander will display as shown in Fig. 5-2-1.

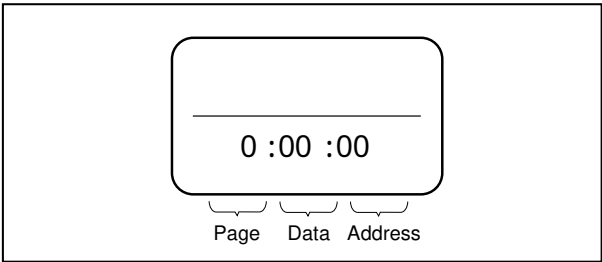


Fig. 5-2-1

- 4) Operate the adjusting remote commander as follows.
 - Changing the page
The page increases when the EDIT SEARCH + button is pressed, and decreases when the EDIT SEARCH – button is pressed. There are altogether 16 pages, from 0 to F.

| | |
|-----------------------------------|---------------------------------------|
| Hexadecimal notation | 0 1 2 3 4 5 6 7 8 9 A B C D E F |
| LCD Display | 0 1 2 3 4 5 6 7 8 9 A b c d e F |
| Decimal notation conversion value | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 |

Table 5-2-1

- Changing the address
The address increases when the FF (M) button is pressed, and decreases when the REW (M) button is pressed. There are altogether 256 addresses, from 00 to FF.
- Changing the data (Data setting)
The data increases when the PLAY (N) button is pressed, and decreases when the STOP (x) button is pressed. There are altogether 256 data, from 00 to FF.
- Writing the adjustment data
The PAUSE button must be pressed to write the adjustment data in the nonvolatile memory. (The new adjustment data will not be recorded in the nonvolatile memory if this step is not performed)

2. Precautions upon Using the Adjusting Remote Commander

Mishandling of the adjusting remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

2-2. DATA PROCESS

The calculation of the adjusting remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Table 5-2-2. indicates the hexadecimal notation- the decimal notation, calculation table.

Hexadecimal notation-Decimal notation

2
↓

| | | | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|----------|----------|----------|----------|----------|
| The lower digits of the hexadecimal notation The upper digits of the hexadecimal notation | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A (A) | B (b) | C (c) | D (d) | E (E) | F (F) |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 2 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| 3 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 |
| 4 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 |
| 5 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 6 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| 7 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 |
| 8 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 |
| 9 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 |
| A (A) | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 |
| B (b) | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 |
| C (c) | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 |
| D (d) | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 |
| E (E) | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 |
| F (F) | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 |

1 →

Note : () indicate the adjusting remote control unit display.

(Example)

In the case that the adjusting remote control unit display are BD (bd).
As the upper digit of the hexadecimal notation is B (b), and the lower digit is D (d), the intersection “189” of the 1 and 2 in the above table is the decimal notation to be calculated.

Table 5-2-2

2-3. SERVICE MODE

1. Setting the Test Mode

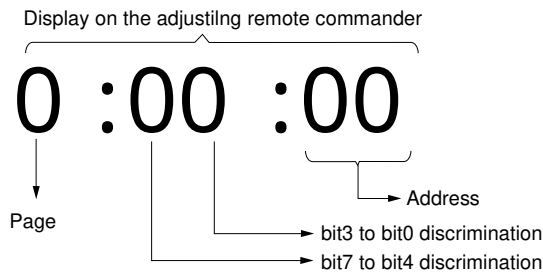
| | |
|--------|------------|
| Page D | Address 10 |
|--------|------------|

| Data | Function |
|------|-----------------------------|
| 00 | Normal |
| 01 | Forced CAMERA mode power ON |
| 02 | Forced PLAY mode power ON |
| 03 | Forced MOVIE mode power ON |

- Before setting the data, select page: 0, address: 01, and set data: 01.
- For page D, the data set is recorded in the non-volatile memory by pressing the PAUSE button of the adjusting remote commander. In this case, take note that the test mode will not be exited even when the main power is turned off.
- After completing adjustments/repairs, be sure to return the data of this address to "00", and press the PAUSE button of the adjusting remote commander.
Select page: 0, address: 01, and set data: 00.

2. Bit Value Discrimination

Bit values must be discriminated using the display data of the adjusting remote commander for following items. Use the table below to discriminate if the bit value is "1" or "0"



| | Display on the Adjusting remote commander | Bit values | | | |
|---|---|--------------|--------------|--------------|--------------|
| | | bit3 or bit7 | bit2 or bit6 | bit1 or bit5 | bit0 or bit4 |
| | 0 | 0 | 0 | 0 | 0 |
| | 1 | 0 | 0 | 0 | 1 |
| | 2 | 0 | 0 | 1 | 0 |
| | 3 | 0 | 0 | 1 | 1 |
| | 4 | 0 | 1 | 0 | 0 |
| | 5 | 0 | 1 | 0 | 1 |
| | 6 | 0 | 1 | 1 | 0 |
| | 7 | 0 | 1 | 1 | 1 |
| A | 8 | 1 | 0 | 0 | 0 |
| | 9 | 1 | 0 | 0 | 1 |
| | A (A) | 1 | 0 | 1 | 0 |
| | B (b) | 1 | 0 | 1 | 1 |
| | C (c) | 1 | 1 | 0 | 0 |
| | D (d) | 1 | 1 | 0 | 1 |
| B | E (E) | 1 | 1 | 1 | 0 |
| | F (F) | 1 | 1 | 1 | 1 |

Example: If "8E" is displayed on the adjusting remote commander, the bit values for bit7 to bit4 are shown in the A column, and the bit values for bit3 to bit0 are shown in the B column.

3. Switch Check (1)

| | |
|--------|------------|
| Page 2 | Address 43 |
|--------|------------|

| Bit | Function | When bit value=1 | When bit value=0 |
|-----|--|------------------|------------------|
| 0 | XPOWER SW (PK-61 board S703) | OFF | ON |
| 1 | XCAM/PLAY SW (PK-61 board S708) | PLAY | CAMERA |
| 2 | SHUTTR SW (CONTROL SWITCH BLOCK S001) | OFF | ON |
| 3 | XSHUTTER LOCK SW (CONTROL SWITCH BLOCK S001) | OFF | ON |
| 4 | MEMORY STICK IN SW (MS Socket) | OUT | IN |
| 5 | | | |
| 6 | | | |
| 7 | XSTILL/MOVIE SW (PK-61 board S710) | MOVIE | STILL |

Using method:

- Select page: 2, address: 43
- By discriminating the bit value of display data, the state of the switches can be discriminated.

4. Switch Check (2)

| | |
|--------|------------|
| Page 2 | Address 48 |
|--------|------------|

| Bit | Function | When bit value=1 | When bit value=0 |
|-----|--------------------------------|------------------|------------------|
| 0 | DISK/XMS SW (PK-61 board S712) | FLOPPY DISK | MEMORY STICK |

Using method:

- Select page: 2, address: 48
- By discriminating the bit value of display data, the state of the switches can be discriminated.

5. Switch Check (3)

| | |
|--------|------------------|
| Page 2 | Addresses 55, 56 |
|--------|------------------|

Using method:

- 1) Select page: 2, addresses: 55, 56.
- 2) By discriminating the display data, the pressed key can be discriminated.

| Address | Data | | | | | | |
|--------------------------------|--|---|--|----------------------------------|---------------------------------------|---|--|
| | 00 to 12 | 13 to 3A | 3B to 62 | 63 to 87 | 88 to B3 | B4 to E0 | E1 to FF |
| 55 (KEY AD1) (IC404 ul) | CONTROL DOWN (PK-61 board) (S701) | CONTROL UP (PK-61 board) (S701) | DISPLAY (PK-61 board) (S702) | | | FOCUS (PK-61 board) (S711) | No key input |
| 56 (KEY AD2) (IC404 i;) | CONTROL RIGHT (PK-61 board) (S701) | CONTROL LEFT (PK-61 board) (S701) | CONTROL SET (PK-61 board) (S701) | FLASH (PK-61 board) (S705) | PROGRAM AE (PK-61 board) (S707) | LCD BACK LIGHT (OFF) (PK-61 board) (S709) | LCD BACK LIGHT (ON) (PK-61 board) (S709) |

6. LED Check

| | | |
|--------|------------|---------|
| Page 2 | Address 06 | Data 02 |
|--------|------------|---------|

Using method:

- 1) Select page: 2, address: 06, and set data: 02.
- 2) Check that all LED except for the ACCESS LED are lit.
- 3) Select page: 2, address: 06, and set data: 00.

7. Self Diagnosis Code

| Display Code | Countermeasure | Cause | Caution Display During Error |
|--------------|--|--|--|
| C:32:01 | Change the disk and turn off the main power then back on. | Defective floppy disk. | DRIVE ERROR |
| C:13:01 | Replace the floppy disk or "Memory Stick". Format the floppy disk or "Memory Stick" with the MVC-FD100/FD200. | <ul style="list-style-type: none"> • The type of floppy disk that cannot be used by this machine, is inserted. (Such as 2DD) • Data is damaged. • Unformatted disk or "Memory Stick" is inserted. | DISK ERROR MEMORY STICK ERROR |
| E:91:01 | Checking of flash unit or replacement of flash unit | Abnormality when flash is being charged. *1 | Flash LED Flash display Flashing at 3.2 Hz |
| E:61:00 | Checking of lens drive circuit | When failed in the focus initialization. | — |
| E61:10 | | | |

Note : The error code is cleared if the battery is removed, except defective flash, unit.

*1: When the flash charging failed, Page: D, Address: 67, Data: 04 are written.

After repair, be sure to write Page: D, Address: 67, Data: 00.

[Power supplying Method]

Use the AC power adaptor (AC-L10A) when supplying the power to this set.

SECTION 6

REPAIR PARTS LIST

6-1. EXPLODED VIEWS

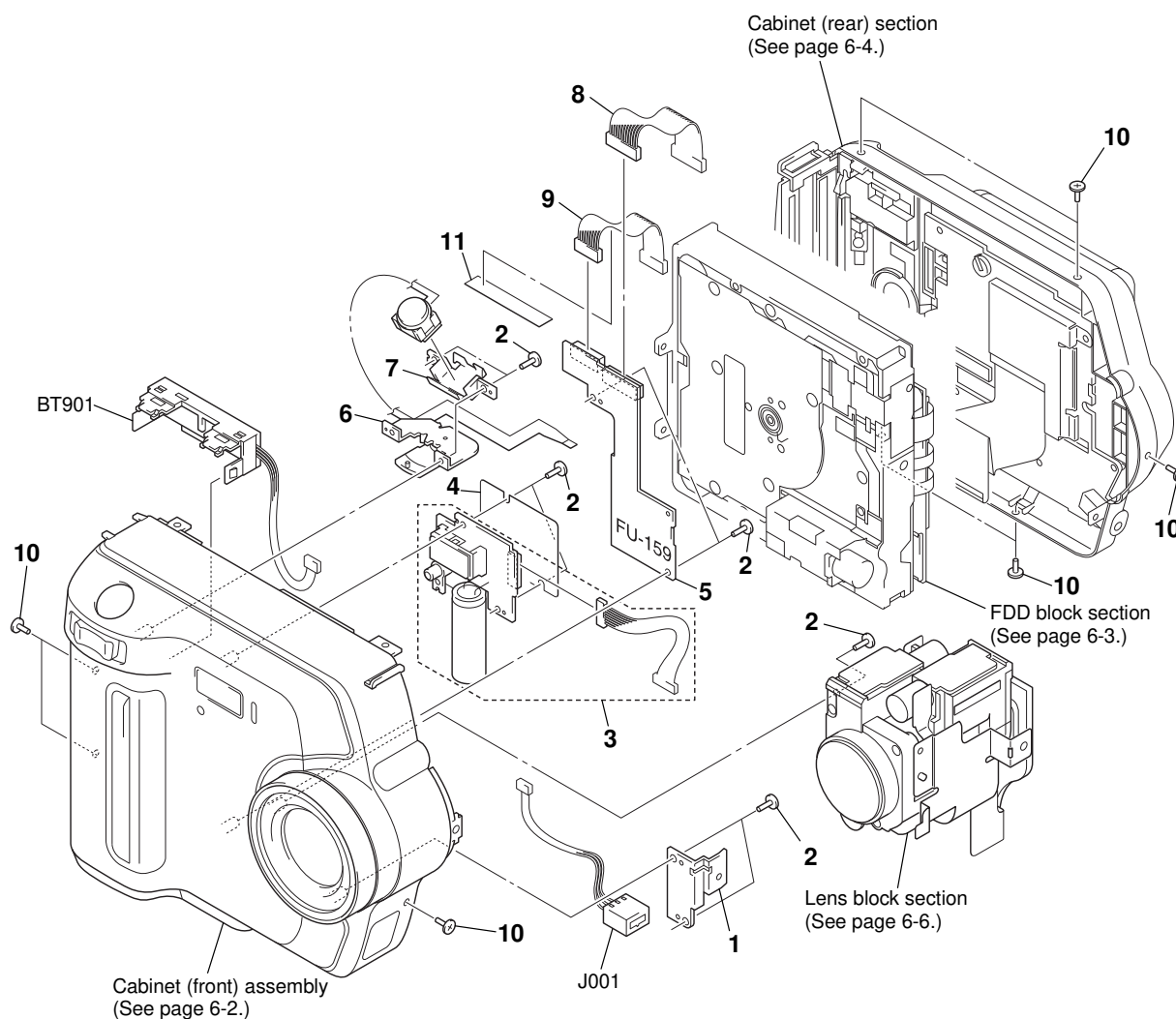
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories are given in the last of the electrical parts list.

The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque 0 sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

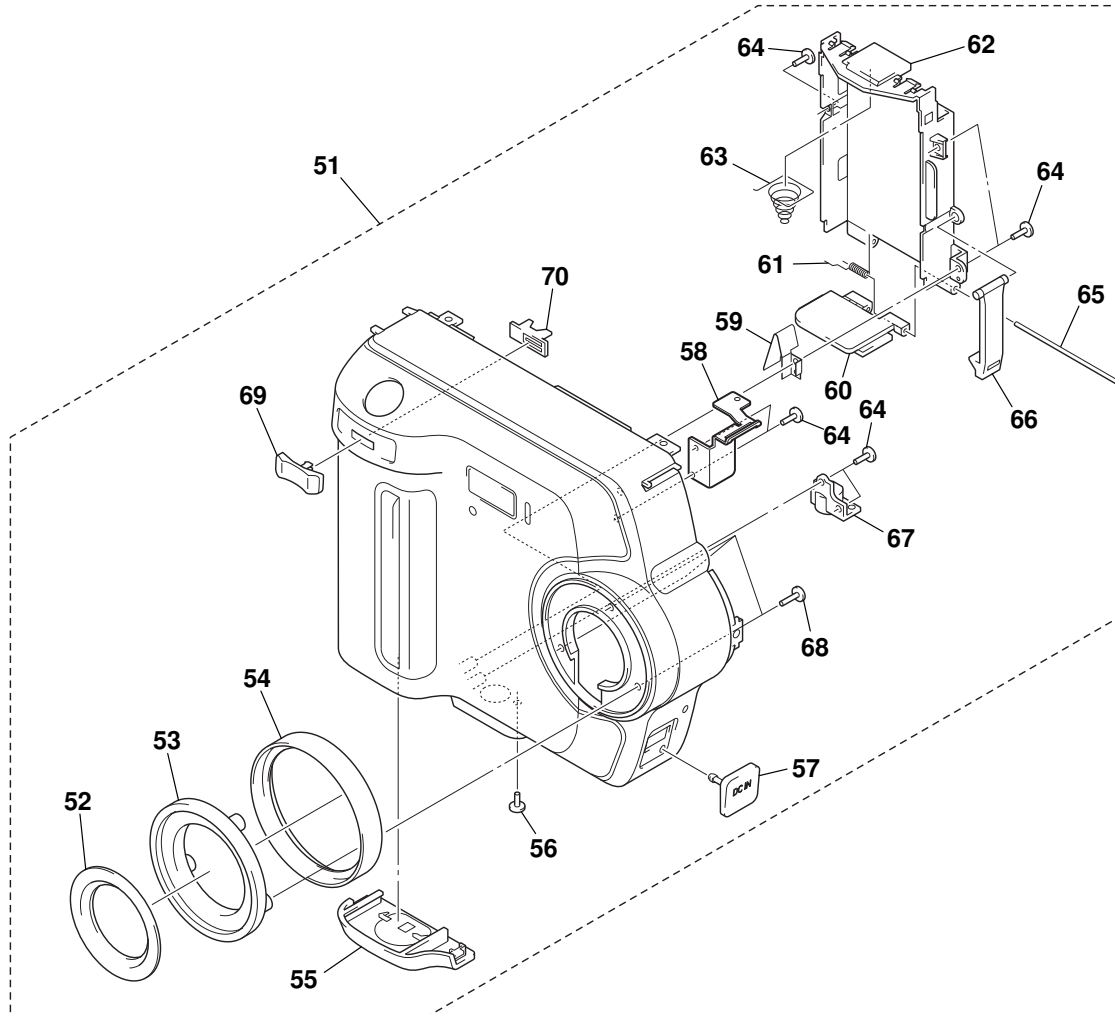
6-1-1. CABINET (FRONT) SECTION



| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
|-----------------|--------------------|-----------------------|
| 1 | 3-073-018-01 | RETAINER, DC |
| 2 | 3-948-339-61 | TAPPING |
| 03 | 1-418-995-11 | FLASH UNIT |
| * 4 | 3-058-801-01 | SHEET, ST INSULATING |
| 5 | A-7078-139-AFU-159 | BOARD, COMPLETE |
| 6 | 1-418-894-11 | SWITCH BLOCK, CONTROL |
| 7 | 3-073-019-01 | HOLDER, SW |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
|-----------------|-----------------|--------------------------|
| 8 | 1-961-478-11 | HARNESS (FU-055) |
| 9 | 1-961-479-11 | HARNESS (FU-056) |
| 10 | 3-968-729-31 | SCREW (M2), LOCK ACE, P2 |
| * 11 | 3-061-228-01 | RETAINER, HARNESS |
| BT901 | 1-694-297-21 | TERMINAL BOARD, BATTERY |
| I001 | 1-794-045-21 | CONNECTOR, DC-IN |

6-1-2. CABINET (FRONT) ASSEMBLY

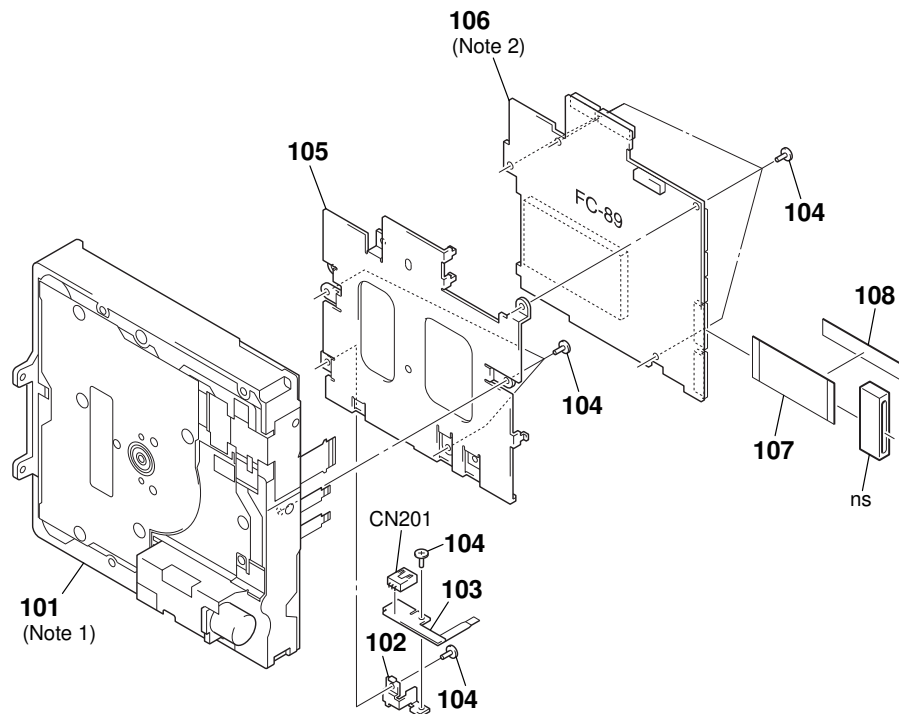


| Ref. No. | Part No. | Description |
|----------|--------------|------------------------------|
| 51 | X-3952-208-1 | CABINET (FRONT) ASSY (FD100) |
| 51 | X-3952-212-1 | CABINET (FRONT) ASSY (FD200) |
| 52 | X-3952-207-1 | LABEL ASSY, LENS |
| 53 | 3-073-008-01 | SCREW, FILTER |
| 54 | 3-073-005-01 | RING, ORNAMENTAL |
| 55 | 3-073-006-01 | LID, BATTERY (FD100) |
| 55 | 3-073-006-11 | LID, BATTERY (FD200) |
| 56 | 3-719-381-01 | SCREW (M2X4) |
| 57 | 3-072-999-01 | COVER, DC (FD100) |
| 57 | 3-072-999-11 | COVER, DC (FD200) |
| 58 | 3-073-013-01 | SHEET METAL (L), STRAP |
| 59 | 3-066-775-01 | SPRING, BT PLATE |

| Ref. No. | Part No. | Description |
|----------|--------------|-----------------------------|
| 60 | 3-066-772-01 | PLATE, HINGE |
| 61 | 3-066-778-01 | SPRING, BT TORSION |
| 62 | 3-066-773-01 | HOLDER, BATTERY |
| 63 | 3-969-380-01 | SPRING, BATTERY |
| 64 | 3-948-339-01 | SCREW, TAPPING |
| 65 | 3-066-774-01 | SHAFT, HINGE |
| 66 | 3-052-574-01 | CLAW, BT LOCK |
| 67 | 3-058-755-01 | SCREW, TRIPOD |
| 68 | 3-713-791-41 | SCREW (M1.7X5), TAPPING, P2 |
| 69 | 3-073-010-01 | KNOB, ZOOM (FD100) |
| 69 | 3-073-010-11 | KNOB, ZOOM (FD200) |
| 70 | 3-073-011-01 | SLIDER, ZOOM |

6-1-3. FDD BLOCK SECTION

ns: not supplied



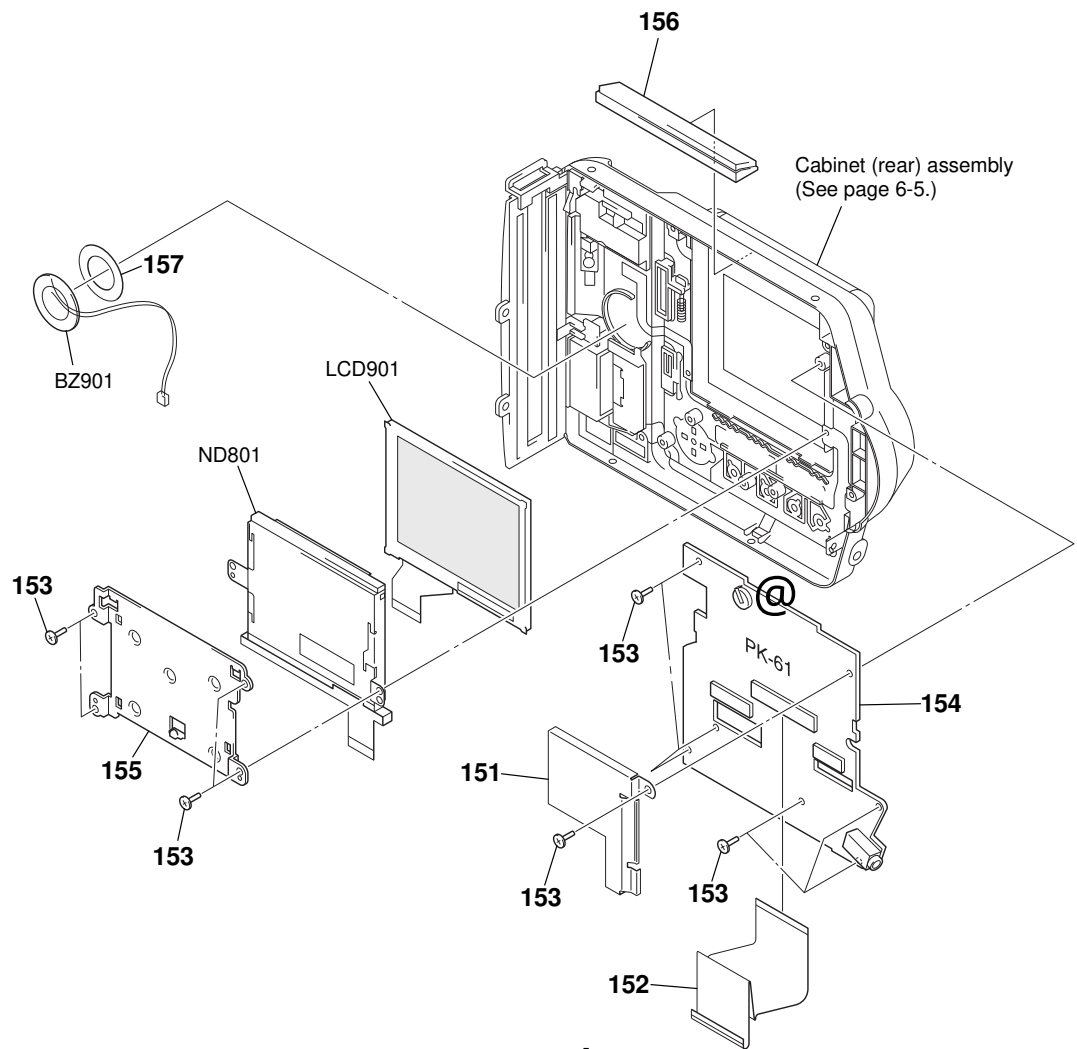
(Note 1) Be sure to read "2-9. THE WAY OF DISASSEMBLING THE FDD" on page 2-7 when disassembling the FDD.

(Note 2) About FC-89 board, CD-379/390 board and CCD imager, discriminate CCD type on the machine referring to page 7, and replace the same type.

| Ref. No. | Part No. | Description |
|----------|-------------------|--|
| 101 | 1-772-563-11 | DRIVE, FLOPPY DISK (Note 1) |
| 102 | 3-066-799-01 | BRACKET, USB |
| 103 | 1-680-234-11 | FP-335 FLEXIBLE BOARD |
| 104 | 3-964-010-31 | SCREW (M2), 0 PART-NO. P2 MAIN |
| 105 | 3-066-780-01 | BRACKET, FC |
| 106 | A-7078-110-AFC-89 | BOARD, COMPLETE (SERVICE) (FD100: TYPE SO) (Note 2) |

| Ref. No. | Part No. | Description |
|----------|-------------------|--|
| 106 | A-7078-111-AFC-89 | BOARD, COMPLETE (SERVICE) (FD100: TYPE PA) (Note 2) |
| 106 | A-7078-112-AFC-89 | BOARD, COMPLETE (SERVICE) (FD200) |
| 107 | 1-683-379-11 | FP-465 FLEXIBLE BOARD |
| * 108 | 3-061-228-01 | RETAINER, HARNESS |
| CN201 | 1-794-962-11 | CONNECTOR, SQUARE TYPE (USB 5P) |

6-1-4. CABINET (REAR) SECTION



! : BT701 (BATTERY, LITHIUM SECONDARY) Board on the mount position. (See page 4-48.)

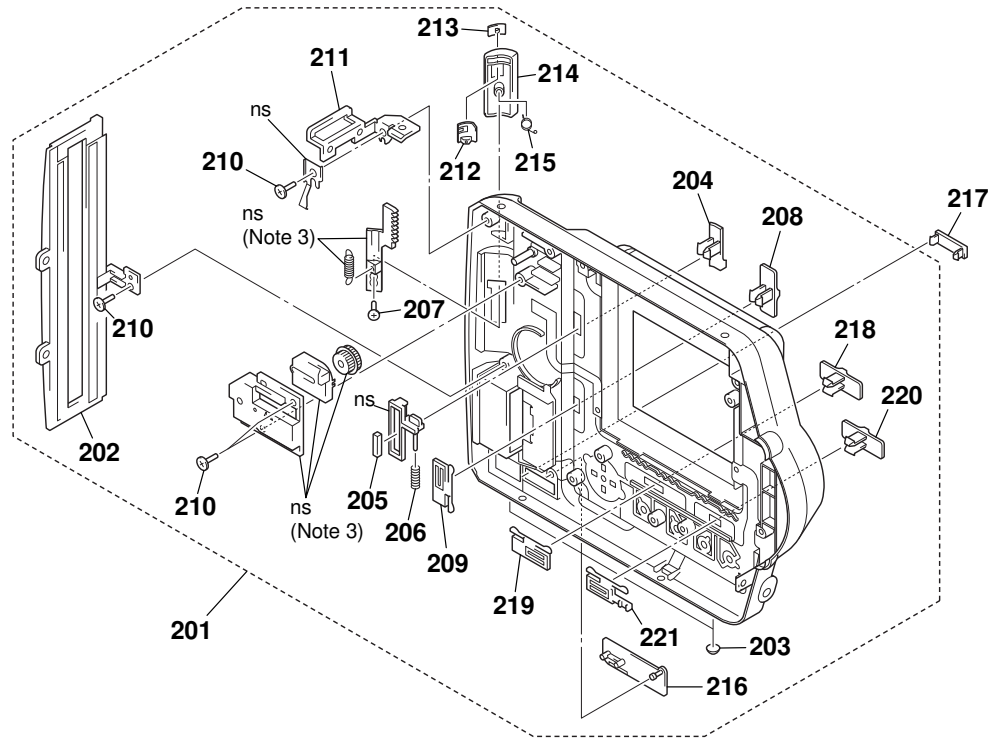
| | |
|--|--|
| The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque 0 sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. |
|--|--|

| Ref. No. | Part No. | Description |
|----------|-------------------|-----------------------|
| 151 | X-3952-209-1 | CASE ASSY, PK SHIELD |
| 152 | 1-683-380-11 | FP-466 FLEXIBLE BOARD |
| 153 | 3-948-339-61 | TAPPING |
| 154 | A-7078-140-APK-61 | BOARD, COMPLETE |
| 155 | 3-073-075-01 | RETAINER, BL |

| Ref. No. | Part No. | Description |
|----------|--------------|---------------------------------|
| 156 | 3-068-458-01 | WINDOW, SOLAR |
| 157 | 3-066-764-01 | SHEET (BUZZER), ADHESIVE |
| BZ901 | 1-529-739-11 | BUZZER, PIEZOELECTRIC |
| LCD901 | 8-753-050-80 | ACX307AKC-1 |
| 0 ND801 | 1-517-787-71 | TUBE, FLUORESCENT, COLD CATHODE |

6-1-5. CABINET (REAR) ASSEMBLY

ns: not supplied

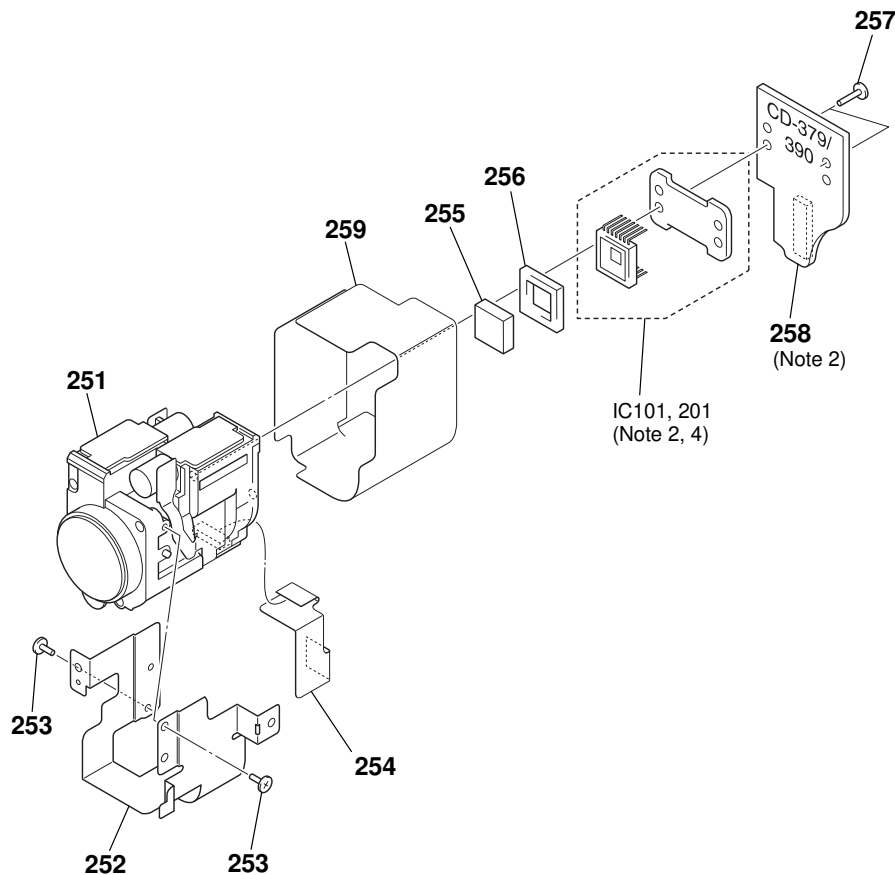


(Note 3) The eject mechanism portion is a mechanical unit which has completely been adjusted in the factory. So never disassemble the eject mechanism portion.

| Ref. No. | Part No. | Description |
|----------|--------------|-----------------------------|
| 201 | X-3952-210-1 | CABINET (REAR) ASSY (FD100) |
| 201 | X-3952-213-1 | CABINET (REAR) ASSY (FD200) |
| 202 | 3-073-024-01 | CABINET, SIDE (FD100) |
| 202 | 3-073-024-11 | CABINET, SIDE (FD200) |
| 203 | 3-051-124-01 | FOOT, RUBBER |
| 204 | 3-073-032-01 | KNOB, POWER (FD100) |
| 204 | 3-073-032-11 | KNOB, POWER (FD200) |
| 205 | 3-073-033-01 | RETAINER, P KNOB |
| 206 | 3-053-141-01 | SPRING, POWER |
| 207 | 3-355-424-21 | SCREW, TAPPING |
| 208 | 3-073-030-01 | KNOB, MS |
| 209 | 3-073-031-01 | RETAINER, MS KNOB |
| 210 | 3-948-339-61 | TAPPING |
| 211 | 3-058-770-01 | SHEET METAL (R), STRAP |
| 212 | 3-058-784-01 | RETAINER, LOCK BUTTON |

| Ref. No. | Part No. | Description |
|----------|--------------|------------------------------|
| 213 | 3-058-783-21 | BUTTON, LOCK (FD200) |
| 213 | 3-058-783-41 | BUTTON, LOCK (FD100) |
| 214 | 3-066-788-01 | KNOB, EJECT (FD200) |
| 214 | 3-066-788-31 | KNOB, EJECT (FD100) |
| 215 | 3-058-785-01 | SPRING, LOCK BUTTON |
| 216 | 3-066-802-11 | COVER, USB JACK (FD100) |
| 216 | 3-066-802-21 | COVER, USB JACK (FD200) |
| 217 | 3-066-805-21 | LID, CPC (FD100) |
| 217 | 3-066-805-31 | LID, CPC (FD200) |
| 218 | 3-073-034-01 | KNOB, MODE SELECTION (FD100) |
| 218 | 3-073-034-11 | KNOB, MODE SELECTION (FD200) |
| 219 | 3-073-035-01 | RETAINER, MODE SELECTION |
| 220 | 3-073-039-01 | KNOB, LCD (FD100) |
| 220 | 3-073-039-11 | KNOB, LCD (FD200) |
| 221 | 3-073-040-01 | RETAINER, LCD KNOB |

6-1-6. LENS BLOCK SECTION



(Note 2) About FC-89 board, CD-379/390 board and CCD imager, discriminate CCD type on the machine referring to page 7, and replace the same type.

(Note 4) Be sure to read "Precuations for Replacement of CCD Imager" on page 4-8, 10 when changing the CCD imager.

| Ref. No. | Part No. | Description |
|----------|--------------------|----------------------------------|
| 251 | 1-758-620-11 | LENS, ZOOM (DE01) |
| 252 | 3-073-016-01 | FRAME, LENS |
| 253 | 3-713-791-41 | SCREW (M1.7X5), TAPPING, P2 |
| 254 | 1-683-378-11 | FP-464 FLEXIBLE BOARD |
| 255 | 1-758-571-11 | FILTER BLOCK, OPTICAL (FD100) |
| 255 | 1-758-572-11 | FILTER BLOCK, OPTICAL (FD200) |
| 256 | 3-068-558-01 | CCD SEAL RUBBER |
| 257 | 3-318-203-11 | SCREW (B1.7X6), TAPPING |
| 258 | A-7078-137-ACD-390 | BOARD, COMPLETE (FD100: TYPE SO) |
| | | (Note 2) |

| Ref. No. | Part No. | Description |
|----------|--------------------|-------------------------------------|
| 258 | A-7078-141-ACD-379 | BOARD, COMPLETE (FD100: TYPE PA) |
| | | (Note 2) |
| 258 | A-7078-144-ACD-390 | BOARD, COMPLETE (FD200) |
| 259 | 3-073-017-01 | SHEET, LENS |
| IC101 | A-7095-017-ACCD | BLOCK ASSY (CCD IMAGER) (FD100: SO) |
| | | (Note 2, 4) |
| IC101 | A-7095-033-ACCD | BLOCK ASSY (CCD IMAGER) (FD200) |
| IC201 | A-7095-023-ACCD | BLOCK ASSY (CCD IMAGER) (FD100: PA) |
| | | (Note 2, 4) |

6-2. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable
- Abbreviation
AUS : Australian model
CND : Canadian model
J : Japanese model

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: ∞ for example:
uA. . : ∞A. . uPA. . : ∞PA. .
uPB. . : ∞PB. . uPC. . : ∞PC. .
uPD. . : ∞PD. .
- CAPACITORS
uF: ∞F
- COILS
uH: ∞H

The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque 0 sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

About FC-89 board, CD-379/390 board and CCD imager, discriminate CCD type on the machine referring to page 7, and replace the same type.

| Ref. No. | Part No. | Description | Ref. No. | Part No. | Description |
|---|---|------------------|--|---|------------------|
| A-7078-141-A CD-379 BOARD, COMPLETE (FD100:TYPE PA) | | | < RESISTOR > | | |
| ***** | | | | | |
| (IC201 is not included in this complete board) | | | R202 | 1-218-977-11 RES-CHIP | 100K 5% 1/16W |
| < CAPACITOR > | | | R203 | 1-216-864-11 METAL CHIP | 0 5% 1/16W |
| C201 | 1-125-827-91 CERAMIC CHIP | 1uF 10% 25V | R204 | 1-218-944-11 RES-CHIP | 180 5% 1/16W |
| C202 | 1-113-992-11 TANTAL. CHIP | 3.3uF 20% 35V | R205 | 1-218-935-11 RES-CHIP | 33 5% 1/16W |
| C203 | 1-119-751-11 TANTAL. CHIP | 22uF 20% 16V | R206 | 1-218-935-11 RES-CHIP | 33 5% 1/16W |
| C204 | 1-164-943-11 CERAMIC CHIP | 0.01uF 10% 16V | R207 | 1-218-959-11 RES-CHIP | 3.3K 5% 1/16W |
| C206 | 1-104-329-11 CERAMIC CHIP | 0.1uF 10% 50V | R208 | 1-218-989-11 RES-CHIP | 1M 5% 1/16W |
| C207 | 1-107-826-11 CERAMIC CHIP | 0.1uF 10% 16V | R209 | 1-218-965-11 RES-CHIP | 10K 5% 1/16W |
| C208 | 1-125-777-11 CERAMIC CHIP | 0.1uF 10% 10V | R210 | 1-218-989-11 RES-CHIP | 1M 5% 1/16W |
| C209 | 1-164-850-11 CERAMIC CHIP | 10PF 0.5PF 50V | < THERMISTOR > | | |
| C210 | 1-125-777-11 CERAMIC CHIP | 0.1uF 10% 10V | TH201 | 1-810-816-11 THERMISTOR, NTC (1608) | |
| C211 | 1-107-826-11 CERAMIC CHIP | 0.1uF 10% 16V | | | |
| C212 | 1-107-820-11 CERAMIC CHIP | 0.1uF 16V | A-7078-137-A CD-390 BOARD, COMPLETE (FD100: TYPE SO) | | |
| C214 | 1-162-964-11 CERAMIC CHIP | 0.001uF 10% 50V | A-7078-144-A CD-390 BOARD, COMPLETE (FD200) | | |
| < CONNECTOR > | | | ***** | | |
| CN201 | 1-691-358-21 CONNECTOR, FFC/FPC (ZIF) 20P | | (IC101 is not included in this complete board) | | |
| < DIODE > | | | < CAPACITOR > | | |
| D201 | 8-719-073-01 DIODE MA111- (K8).SO | | C101 | 1-125-827-91 CERAMIC CHIP | 1uF 10% 25V |
| < FERRITE BEAD > | | | C102 | 1-113-992-11 TANTAL. CHIP | 3.3uF 20% 35V |
| FB201 | 1-414-228-11 FERRITE | 0uH | C103 | 1-104-913-11 TANTAL. CHIP | 10uF 20% 16V |
| FB202 | 1-414-228-11 FERRITE | 0uH | C105 | 1-164-943-11 CERAMIC CHIP | 0.01uF 10% 16V |
| < IC > | | | C106 | 1-104-329-11 CERAMIC CHIP | 0.1uF 10% 50V |
| IC201 | A-7095-023-A CCD BLOCK ASSY (Note) | | C107 | 1-107-826-11 CERAMIC CHIP | 0.1uF 10% 16V |
| < COIL > | | | C108 | 1-162-966-11 CERAMIC CHIP | 0.0022uF 10% 50V |
| L201 | 1-469-525-91 INDUCTOR | 10uH | C109 | 1-107-826-11 CERAMIC CHIP | 0.1uF 10% 16V |
| < TRANSISTOR > | | | C110 | 1-107-826-11 CERAMIC CHIP | 0.1uF 10% 16V |
| Q201 | 8-729-117-73 TRANSISTOR | 2SC4178-F14 | C111 | 1-107-820-11 CERAMIC CHIP | 0.1uF 16V |
| Q202 | 8-729-037-74 TRANSISTOR | UN9213J- (TX).SO | (FD100: TYPE SO) | | |
| | | | C112 | 1-164-850-11 CERAMIC CHIP | 10PF 0.5PF 50V |
| | | | C113 | 1-107-820-11 CERAMIC CHIP | 0.1uF 16V |
| | | | (FD200) | | |
| | | | < CONNECTOR > | | |
| | | | CN101 | 1-691-358-21 CONNECTOR, FFC/FPC (ZIF) 20P | |

(Note) Be sure to read "Note on the CCD Imager Replacement" on page 4-8 when changing the CCD imager.

MVC-FD100/FD100H/FD200/FD200H

CD-390

Ref. No. Part No. Description

< DIODE >

D101 8-719-073-01 DIODE MA111-(K8).S0

< FERRITE BEAD >

FB101 1-414-228-11 FERRITE 0uH

< IC >

IC101 A-7095-017-A CCD BLOCK ASSY (FD100: TYPE SO) (Note

IC101 A-7095-033-A CCD BLOCK ASSY (FD200) (Note)

< COIL >

L101 1-469-528-91 INDUCTOR 100uH

< TRANSISTOR >

Q101 8-729-037-74 TRANSISTOR UN9213J-(TX).SO

Q102 8-729-117-73 TRANSISTOR 2SC4178-F14

< RESISTOR >

| | | | | |
|------|-------------------------|------|----|-----------------|
| R102 | 1-218-977-11 RES-CHIP | 100K | 5% | 1/16W |
| R103 | 1-218-943-11 RES-CHIP | 150 | 5% | 1/16W |
| | | | | (FD200 |
| R103 | 1-218-944-11 RES-CHIP | 180 | 5% | 1/16W |
| | | | | (FD100: TYPE SC |
| R104 | 1-208-635-11 RES-CHIP | 10 | 5% | 1/16W |
| | | | | (FD200 |
| R104 | 1-218-935-11 RES-CHIP | 33 | 5% | 1/16W |
| | | | | (FD100: TYPE SC |
| R105 | 1-218-931-11 RES-CHIP | 15 | 5% | 1/16W |
| | | | | (FD200 |
| R105 | 1-218-935-11 RES-CHIP | 33 | 5% | 1/16W |
| | | | | (FD100: TYPE SC |
| R106 | 1-218-957-11 RES-CHIP | 2.2K | 5% | 1/16W |
| | | | | (FD200 |
| R106 | 1-218-963-11 RES-CHIP | 6.8K | 5% | 1/16W |
| | | | | (FD100: TYPE SC |
| R107 | 1-208-643-11 RES-CHIP | 22 | 5% | 1/16W |
| | | | | (FD200 |
| R107 | 1-218-937-11 RES-CHIP | 47 | 5% | 1/16W |
| | | | | (FD100: TYPE SC |
| R108 | 1-218-981-11 RES-CHIP | 220K | 5% | 1/16W |
| | | | | (FD200 |
| R108 | 1-218-989-11 RES-CHIP | 1M | 5% | 1/16W |
| | | | | (FD100: TYPE SC |
| R109 | 1-218-959-11 RES-CHIP | 3.3K | 5% | 1/16W |
| R110 | 1-216-864-11 METAL CHIP | 0 | 5% | 1/16W |

< THERMISTOR >

TH101 1-810-816-11 THERMISTOR, NTC (1608)

Electrical parts list of the FC-89 board is not shown.
Pages 6-9 to 6-15 are not shown.

(Note) Be sure to read "Note on the CCD Imager Replacement" on page 4-10 when changing the CCD imager.

FU-159

PK-61

| Ref. No. | Part No. | Description |
|----------|--------------|-------------------------------|
| | A-7078-139-A | FU-159 BOARD, COMPLETE |
| | | ***** |
| | | < CAPACITOR > |
| C001 | 1-107-819-11 | CERAMIC CHIP 0.022uF 10% 16V |
| | | < CONNECTOR > |
| * CN001 | 1-580-056-21 | PIN, CONNECTOR (SMD) 3P |
| * CN002 | 1-580-057-11 | PIN, CONNECTOR (SMD) 4P |
| CN003 | 1-770-626-21 | PIN, CONNECTOR 9P |
| CN004 | 1-770-629-21 | PIN, CONNECTOR 12P |
| CN005 | 1-779-327-11 | CONNECTOR, FFC/FPC 6P |
| | | < DIODE > |
| D002 | 8-719-027-76 | DIODE 1SS357-TPH3 |
| | | < FUSE > |
| OF001 | 1-576-406-21 | FUSE, MICRO (1608) (1.4A/32V) |
| OF002 | 1-576-406-21 | FUSE, MICRO (1608) (1.4A/32V) |
| OF003 | 1-576-406-21 | FUSE, MICRO (1608) (1.4A/32V) |
| OF004 | 1-576-406-21 | FUSE, MICRO (1608) (1.4A/32V) |
| OF005 | 1-576-406-21 | FUSE, MICRO (1608) (1.4A/32V) |
| | | < FERRITE BEAD > |
| FB001 | 1-414-228-11 | FERRITE 0uH |
| FB002 | 1-414-228-11 | FERRITE 0uH |
| FB003 | 1-414-228-11 | FERRITE 0uH |
| | | < LINE FILTER > |
| LF001 | 1-411-957-11 | FILTER, COMMON MODE |
| | | < TRANSISTOR > |
| Q001 | 8-729-046-77 | TRANSISTOR SI4963DY-T1 |
| Q002 | 8-729-804-41 | TRANSISTOR 2SB1122-S |
| Q003 | 8-729-037-74 | TRANSISTOR UN9213J- (TX).SO |
| Q004 | 8-729-047-68 | TRANSISTOR SSM3K03FE (TPL3) |
| Q005 | 8-729-047-68 | TRANSISTOR SSM3K03FE (TPL3) |
| | | < RESISTOR > |
| R001 | 1-218-953-11 | RES-CHIP 1K 5% 1/16W |
| R002 | 1-218-985-11 | RES-CHIP 470K 5% 1/16W |
| R004 | 1-218-953-11 | RES-CHIP 1K 5% 1/16W |
| R005 | 1-218-963-11 | RES-CHIP 6.8K 5% 1/16W |
| R006 | 1-218-989-11 | RES-CHIP 1M 5% 1/16W |
| R008 | 1-414-226-21 | FERRITE 0uH (Note) |
| R019 | 1-218-973-11 | RES-CHIP 47K 5% 1/16W |
| R020 | 1-216-150-91 | RES-CHIP 10 5% 1/8W |
| R021 | 1-218-990-11 | SHORT 0 |

A-7078-140-A PK-61 BOARD, COMPLETE

< BATTERY >

BT701 1-756-102-21 BATTERY, LITHIUM SECONDARY

< CAPACITOR >

C705 1-119-750-11 TANTAL. CHIP 22uF 20% 6.3V

| Ref. No. | Part No. | Description |
|----------|--------------|-------------------------------|
| C706 | 1-115-467-11 | CERAMIC CHIP 0.22uF 10% 10V |
| C710 | 1-125-891-11 | CERAMIC CHIP 0.47uF 10% 10V |
| C711 | 1-164-876-11 | CERAMIC CHIP 120PF 5% 50V |
| C851 | 1-164-943-11 | CERAMIC CHIP 0.01uF 10% 16V |
| C852 | 1-119-751-11 | TANTAL. CHIP 22uF 20% 16V |
| C853 | 1-165-128-11 | CERAMIC CHIP 0.22uF 16V |
| C854 | 1-135-149-21 | TANTALUM CHIP 2.2uF 20% 10V |
| C855 | 1-164-505-11 | CERAMIC CHIP 2.2uF 16V |
| C856 | 1-164-856-81 | CERAMIC CHIP 18PF 5% 50V |
| C857 | 1-107-819-11 | CERAMIC CHIP 0.022uF 10% 16V |
| C858 | 1-164-943-11 | CERAMIC CHIP 0.01uF 10% 16V |
| C859 | 1-164-860-11 | CERAMIC CHIP 27PF 5% 50V |
| C861 | 1-127-692-11 | CERAMIC CHIP 10uF 10% 6.3V |
| C863 | 1-125-777-11 | CERAMIC CHIP 0.1uF 10% 10V |
| C864 | 1-164-657-11 | CERAMIC CHIP 0.015uF 10% 50V |
| C865 | 1-125-777-11 | CERAMIC CHIP 0.1uF 10% 10V |
| C866 | 1-131-959-91 | CERAMIC CHIP 12PF 10% 3KV |
| C901 | 1-107-687-11 | TANTAL. CHIP 3.3uF 20% 20V |
| C902 | 1-107-820-11 | CERAMIC CHIP 0.1uF 16V |
| C903 | 1-125-777-11 | CERAMIC CHIP 0.1uF 10% 10V |
| C904 | 1-125-777-11 | CERAMIC CHIP 0.1uF 10% 10V |
| C907 | 1-104-852-11 | TANTAL. CHIP 22uF 20% 6.3V |
| C908 | 1-164-943-11 | CERAMIC CHIP 0.01uF 10% 16V |
| C909 | 1-164-943-11 | CERAMIC CHIP 0.01uF 10% 16V |
| C910 | 1-164-943-11 | CERAMIC CHIP 0.01uF 10% 16V |
| C912 | 1-125-889-91 | CERAMIC CHIP 2.2uF 10% 10V |
| C913 | 1-125-889-91 | CERAMIC CHIP 2.2uF 10% 10V |
| C914 | 1-125-889-91 | CERAMIC CHIP 2.2uF 10% 10V |
| C917 | 1-107-686-11 | TANTAL. CHIP 4.7uF 20% 16V |
| C918 | 1-135-259-11 | TANTAL. CHIP 10uF 20% 6.3V |
| C920 | 1-125-777-11 | CERAMIC CHIP 0.1uF 10% 10V |
| C921 | 1-107-826-11 | CERAMIC CHIP 0.1uF 10% 16V |
| C922 | 1-125-777-11 | CERAMIC CHIP 0.1uF 10% 10V |
| C923 | 1-125-777-11 | CERAMIC CHIP 0.1uF 10% 10V |
| C924 | 1-164-943-11 | CERAMIC CHIP 0.01uF 10% 16V |
| C925 | 1-127-760-11 | CERAMIC CHIP 4.7uF 10% 6.3V |
| C926 | 1-164-940-11 | CERAMIC CHIP 0.0033uF 10% 16V |
| C927 | 1-164-868-11 | CERAMIC CHIP 56PF 5% 50V |
| C928 | 1-164-937-11 | CERAMIC CHIP 0.001uF 10% 50V |
| C929 | 1-110-501-11 | CERAMIC CHIP 0.33uF 10% 16V |
| C931 | 1-109-982-11 | CERAMIC CHIP 1uF 10% 10V |
| C932 | 1-125-777-11 | CERAMIC CHIP 0.1uF 10% 10V |
| C934 | 1-125-837-91 | CERAMIC CHIP 1uF 10% 6.3V |
| C935 | 1-125-777-11 | CERAMIC CHIP 0.1uF 10% 10V |
| C936 | 1-125-889-91 | CERAMIC CHIP 2.2uF 10% 10V |
| C937 | 1-125-889-91 | CERAMIC CHIP 2.2uF 10% 10V |
| C938 | 1-125-889-91 | CERAMIC CHIP 2.2uF 10% 10V |
| | | < CONNECTOR > |
| CN701 | 1-774-054-21 | CONNECTOR, FFC/FPC (ZIF) 45P |
| CN702 | 1-784-342-11 | HOUSING, CONNECTOR 2P |
| CN851 | 1-764-709-11 | CONNECTOR, FFC/FPC (LIF) 10P |
| CN902 | 1-691-362-11 | CONNECTOR, FFC/FPC (ZIF) 24P |
| | | < DIODE > |
| D701 | 8-719-061-81 | DIODE TLYU1002 (TPX1, SONY) |
| | | (FLASH LED) |
| D702 | 8-719-061-81 | DIODE TLYU1002 (TPX1, SONY) |

(Note) Ferrite bead is mounted to the location where R008 is printed.

The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque 0 sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref. No. | Part No. | Description | | | | | Ref. No. | Part No. | Description | | | | |
|----------|--------------|-------------------|-----------------------|----|-------|--------|----------|--------------|-------------|------|------|-------|--|
| | | | (CHARGE LED) | | | | R714 | 1-208-912-11 | METAL CHIP | 11K | 0.5% | 1/16W | |
| D703 | 8-719-064-05 | DIODE | TLGU1002 (TPX1, SONY) | | | | R715 | 1-218-978-11 | RES-CHIP | 120K | 5% | 1/16W | |
| | | | (POWER LED) | | | | R716 | 1-218-956-11 | RES-CHIP | 1.8K | 5% | 1/16W | |
| D786 | 8-719-073-03 | DIODE | MA8082- (K8).SO | | | | R717 | 1-218-956-11 | RES-CHIP | 1.8K | 5% | 1/16W | |
| D853 | 8-719-073-01 | DIODE | MA111- (K8).SO | | | | R718 | 1-218-958-11 | RES-CHIP | 2.7K | 5% | 1/16W | |
| | | | | | | | R719 | 1-218-958-11 | RES-CHIP | 2.7K | 5% | 1/16W | |
| D904 | 8-719-084-47 | DIODE | 1SV290 (TPL3) | | | | | | | | | | |
| D906 | 8-719-050-42 | DIODE | RD3.3UM-T1B | | | | R721 | 1-218-961-11 | RES-CHIP | 4.7K | 5% | 1/16W | |
| | | | < FERRITE BEAD > | | | | R722 | 1-218-961-11 | RES-CHIP | 4.7K | 5% | 1/16W | |
| FB788 | 1-414-228-11 | FERRITE | 0uH | | | | R723 | 1-218-963-11 | RES-CHIP | 6.8K | 5% | 1/16W | |
| FB789 | 1-500-284-21 | FERRITE | 0uH | | | | R724 | 1-218-972-11 | RES-CHIP | 39K | 5% | 1/16W | |
| FB791 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W | (Note) | R725 | 1-218-971-11 | RES-CHIP | 33K | 5% | 1/16W | |
| | | | < IC > | | | | R726 | 1-218-965-11 | RES-CHIP | 10K | 5% | 1/16W | |
| IC702 | 8-759-572-54 | IC | TA6009FN (EL) | | | | R727 | 1-216-013-00 | METAL CHIP | 33 | 5% | 1/10W | |
| IC851 | 8-759-521-35 | IC | TL5001CDR | | | | R782 | 1-218-953-11 | RES-CHIP | 1K | 5% | 1/16W | |
| IC852 | 8-759-710-82 | IC | NJM2406F | | | | R853 | 1-208-703-11 | METAL CHIP | 6.8K | 0.5% | 1/16W | |
| IC901 | 6-700-684-01 | IC | AN12511A-BB | | | | R854 | 1-218-970-11 | METAL CHIP | 27K | 0.5% | 1/16W | |
| IC902 | 8-759-364-05 | IC | M62376GP-65AD | | | | | | | | | | |
| | | | | | | | R855 | 1-218-978-11 | METAL CHIP | 120K | 0.5% | 1/16W | |
| IC903 | 8-759-327-01 | IC | NJM062V (TE2) | | | | R856 | 1-218-950-11 | RES-CHIP | 560 | 5% | 1/16W | |
| IC904 | 8-752-405-01 | IC | CXD3510R-T4 | | | | R857 | 1-218-969-11 | RES-CHIP | 22K | 5% | 1/16W | |
| | | | < JACK > | | | | R858 | 1-218-950-11 | RES-CHIP | 560 | 5% | 1/16W | |
| J781 | 1-569-950-31 | JACK (SMALL TYPE) | (VIDEO OUT) | | | | R859 | 1-218-961-11 | RES-CHIP | 4.7K | 5% | 1/16W | |
| | | | < COIL > | | | | R860 | 1-208-707-11 | METAL CHIP | 10K | 0.5% | 1/16W | |
| L702 | 1-469-527-91 | INDUCTOR | 47uH | | | | R861 | 1-208-689-11 | METAL CHIP | 1.8K | 0.5% | 1/16W | |
| L851 | 1-469-524-91 | INDUCTOR | 4.7uH | | | | R862 | 1-208-695-11 | METAL CHIP | 3.3K | 0.5% | 1/16W | |
| L852 | 1-419-354-21 | INDUCTOR | 22uH | | | | R863 | 1-218-955-11 | RES-CHIP | 1.5K | 5% | 1/16W | |
| L853 | 1-428-878-11 | INDUCTOR | 0uH | | | | R864 | 1-218-973-11 | RES-CHIP | 47K | 5% | 1/16W | |
| L901 | 1-469-525-91 | INDUCTOR | 10uH | | | | | | | | | | |
| | | | | | | | R865 | 1-218-961-11 | RES-CHIP | 4.7K | 5% | 1/16W | |
| L902 | 1-469-528-91 | INDUCTOR | 100uH | | | | R866 | 1-218-955-11 | RES-CHIP | 1.5K | 5% | 1/16W | |
| L903 | 1-469-527-91 | INDUCTOR | 47uH | | | | R868 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W | |
| L904 | 1-412-949-21 | INDUCTOR | 6.8uH | | | | R869 | 1-218-977-11 | RES-CHIP | 100K | 5% | 1/16W | |
| | | | < TRANSISTOR > | | | | R870 | 1-218-963-11 | RES-CHIP | 6.8K | 5% | 1/16W | |
| Q851 | 8-729-042-72 | TRANSISTOR | UN9214J- (K8).SO | | | | R871 | 1-218-969-11 | RES-CHIP | 22K | 5% | 1/16W | |
| Q852 | 8-729-042-59 | TRANSISTOR | UN9112J- (K8).SO | | | | R872 | 1-218-949-11 | RES-CHIP | 470 | 5% | 1/16W | |
| Q853 | 8-729-037-74 | TRANSISTOR | UN9213J- (TX).SO | | | | R873 | 1-218-942-11 | RES-CHIP | 120 | 5% | 1/16W | |
| Q854 | 8-729-037-52 | TRANSISTOR | 2SD2216J-QR | | | | R876 | 1-218-975-11 | RES-CHIP | 68K | 5% | 1/16W | |
| Q855 | 8-729-037-74 | TRANSISTOR | UN9213J- (TX).SO | | | | R902 | 1-218-970-11 | RES-CHIP | 27K | 5% | 1/16W | |
| | | | | | | | | | | | | | |
| Q856 | 8-729-823-84 | TRANSISTOR | FP102 | | | | R905 | 1-218-961-11 | RES-CHIP | 4.7K | 5% | 1/16W | |
| Q857 | 8-729-037-52 | TRANSISTOR | 2SD2216J-QR (TX) | | | | R910 | 1-218-990-11 | SHORT | 0 | | | |
| Q858 | 8-729-037-52 | TRANSISTOR | 2SD2216J-QR (TX) | | | | R911 | 1-218-977-11 | RES-CHIP | 100K | 5% | 1/16W | |
| Q859 | 8-729-037-74 | TRANSISTOR | UN9213J- (TX).SO | | | | R913 | 1-218-990-11 | SHORT | 0 | | | |
| Q860 | 6-550-065-01 | TRANSISTOR | CPH5504-TL-E | | | | R919 | 1-218-965-11 | RES-CHIP | 10K | 5% | 1/16W | |
| | | | | | | | | | | | | | |
| Q861 | 8-729-042-59 | TRANSISTOR | UN9112J- (K8).SO | | | | R920 | 1-218-976-11 | RES-CHIP | 82K | 5% | 1/16W | |
| Q903 | 8-729-427-74 | TRANSISTOR | XP4601 | | | | R921 | 1-218-974-11 | RES-CHIP | 56K | 5% | 1/16W | |
| Q904 | 8-729-427-74 | TRANSISTOR | XP4601 | | | | R922 | 1-218-961-11 | RES-CHIP | 4.7K | 5% | 1/16W | |
| Q905 | 8-729-427-74 | TRANSISTOR | XP4601 | | | | R923 | 1-218-968-11 | RES-CHIP | 18K | 5% | 1/16W | |
| Q908 | 8-729-037-53 | TRANSISTOR | 2SB1462J-QR (TX) | | | | R924 | 1-218-973-11 | RES-CHIP | 47K | 5% | 1/16W | |
| | | | < RESISTOR > | | | | | | | | | | |
| R703 | 1-218-990-11 | SHORT | 0 | | | | R925 | 1-218-967-11 | RES-CHIP | 15K | 5% | 1/16W | |
| R705 | 1-218-951-11 | RES-CHIP | 680 | 5% | 1/16W | | R927 | 1-218-973-11 | RES-CHIP | 47K | 5% | 1/16W | |
| R710 | 1-218-946-11 | RES-CHIP | 270 | 5% | 1/16W | | R928 | 1-218-969-11 | RES-CHIP | 22K | 5% | 1/16W | |
| R713 | 1-218-951-11 | RES-CHIP | 680 | 5% | 1/16W | | R930 | 1-218-965-11 | RES-CHIP | 10K | 5% | 1/16W | |
| | | | | | | | R931 | 1-218-941-81 | RES-CHIP | 100 | 5% | 1/16W | |
| | | | | | | | | | | | | | |
| | | | | | | | R932 | 1-218-941-81 | RES-CHIP | 100 | 5% | 1/16W | |
| | | | | | | | R933 | 1-218-941-81 | RES-CHIP | 100 | 5% | 1/16W | |
| | | | | | | | R936 | 1-218-972-11 | RES-CHIP | 39K | 5% | 1/16W | |
| | | | | | | | R937 | 1-218-965-11 | RES-CHIP | 10K | 5% | 1/16W | |
| | | | | | | | R938 | 1-218-973-11 | RES-CHIP | 47K | 5% | 1/16W | |
| | | | | | | | | | | | | | |
| | | | | | | | R939 | 1-218-981-11 | RES-CHIP | 220K | 5% | 1/16W | |

(Note) Resistor is mounted to the location where FB791 is printed.

PK-61

| Ref. No. | Part No. | Description | Ref. No. | Part No. | Description |
|----------|--------------|-----------------------------------|----------|--------------|---|
| R940 | 1-218-969-11 | RES-CHIP 22K 5% 1/16W | 0 | 1-783-374-11 | CORD, POWER (UK) |
| R943 | 1-218-990-11 | SHORT 0 | 0 | 1-790-107-22 | CORD, POWER (US, CND) |
| R944 | 1-218-977-11 | RES-CHIP 100K 5% 1/16W | 0 | 1-790-732-11 | CORD, POWER (J) |
| R945 | 1-218-972-11 | RES-CHIP 39K 5% 1/16W | | 1-792-955-11 | CORD, CONNECTION (AV CONNECTING 1.5m) |
| | | | | 1-823-931-11 | CORD, CONNECTION (USB 5P) |
| R947 | 1-218-985-11 | RES-CHIP 470K 5% 1/16W | | 3-065-665-01 | MANUAL, INSTRUCTION (for SAFETY) |
| R948 | 1-218-970-11 | RES-CHIP 27K 5% 1/16W | | | (JAPANESE) (J) |
| R949 | 1-218-973-11 | RES-CHIP 47K 5% 1/16W | | 3-067-797-01 | STRING (T), CAP |
| R950 | 1-218-975-11 | RES-CHIP 68K 5% 1/16W | | 3-072-414-01 | SPVD-008 (CD-ROM) (EXCEPT US, CND, J) |
| R951 | 1-218-965-11 | RES-CHIP 10K 5% 1/16W | | 3-072-654-01 | SPVD-008 (I) (CD-ROM) (US, CND, J) |
| | | | | 3-073-074-01 | MANUAL, INSTRUCTION (JAPANESE) (J) |
| R953 | 1-218-965-11 | RES-CHIP 10K 5% 1/16W | | | |
| R955 | 1-218-990-11 | SHORT 0 | | 3-073-074-11 | MANUAL, INSTRUCTION (ENGLISH) |
| R956 | 1-218-971-11 | RES-CHIP 33K 5% 1/16W | | | (US, CND, AEP, UK, E, AUS) |
| R957 | 1-218-953-11 | RES-CHIP 1K 5% 1/16W | | 3-073-074-21 | MANUAL, INSTRUCTION (FRENCH, GERMAN) |
| R958 | 1-218-990-11 | SHORT 0 | | | (CND, AEP) |
| R961 | 1-218-990-11 | SHORT 0 | | 3-073-074-31 | MANUAL, INSTRUCTION |
| R965 | 1-216-864-11 | METAL CHIP 0 5% 1/16W | | | (SPANISH, PORTUGUESE) (AEP, E) |
| R974 | 1-218-979-11 | RES-CHIP 150K 5% 1/16W | | 3-073-074-41 | MANUAL, INSTRUCTION (ITALIAN, DUTCH) |
| R975 | 1-218-985-11 | RES-CHIP 470K 5% 1/16W | | | (AEP) |
| R976 | 1-218-971-11 | RES-CHIP 33K 5% 1/16W | | 3-073-074-51 | MANUAL, INSTRUCTION (TRADITIONAL |
| | | | | | CHINESE, SIMPLIFIED CHINESE) (E) |
| R977 | 1-218-974-11 | RES-CHIP 56K 5% 1/16W | | 3-073-074-61 | MANUAL, INSTRUCTION |
| R982 | 1-218-965-11 | RES-CHIP 10K 5% 1/16W | | | (SWEDISH, RUSSIAN) (AEP) |
| R986 | 1-216-864-11 | METAL CHIP 0 5% 1/16W | | 3-073-074-71 | MANUAL, INSTRUCTION (ARABIC) (E) |
| R987 | 1-218-971-11 | RES-CHIP 33K 5% 1/16W | | 3-987-015-01 | BELT (S), SHOULDER |
| R988 | 1-218-990-11 | SHORT 0 | 0 | A-7094-140-A | BATTERY PACK (NP-F330) (US, CND) |
| R989 | 1-216-864-11 | METAL CHIP 0 5% 1/16W | 0 | A-7094-141-A | BATTERY PACK (NP-F330) (EXCEPT US, CND) |
| R990 | 1-216-864-11 | METAL CHIP 0 5% 1/16W | | | |
| | | | | X-3950-660-1 | CAP ASSY, LENS |
| | | < SWITCH > | | | |
| S701 | 1-786-039-21 | SWITCH, TACTILE (MENU) | | | |
| S702 | 1-771-138-82 | SWITCH, KEY BOARD (DISPLAY) | | | |
| S703 | 1-771-039-31 | SWITCH, PUSH (POWER ON/OFF (CHG)) | | | |
| S705 | 1-771-138-82 | SWITCH, KEY BOARD (FLASH) | | | |
| S707 | 1-771-138-82 | SWITCH, KEY BOARD (PROGRAM AE) | | | |
| S708 | 1-771-039-31 | SWITCH, PUSH (PLAY) | | | |
| S709 | 1-762-741-11 | SWITCH, SLIDE (LCD BACKLIGHT) | | | |
| S710 | 1-771-039-31 | SWITCH, PUSH (MOVIE) | | | |
| S711 | 1-771-138-82 | SWITCH, KEY BOARD (FOCUS) | | | |
| S712 | 1-771-040-31 | SWITCH, PUSH (MS/FD) | | | |
| | | < SENSOR > | | | |
| SE701 | 1-801-868-41 | SENSOR, SHOCK | | | |
| | | < TRANSFORMER > | | | |
| OT851 | 1-435-786-31 | TRANSFORMER, INVERTER | | | |
| | | < VARISTOR > | | | |
| VDR782 | 1-803-974-21 | VARISTOR, CHIP | | | |
| VDR783 | 1-801-862-11 | VARISTOR, CHIP | | | |
| VDR851 | 1-801-862-11 | VARISTOR, CHIP | | | |
| | | ACCESSORIES | | | |
| | | ***** | | | |
| 0 | 1-475-599-11 | ADAPTOR, AC (AC-L10) | | | |
| 0 | 1-569-007-11 | ADAPTOR, CONVERSION 2P (E) | | | |
| 0 | 1-569-008-21 | ADAPTOR, CONVERSION 2P (E) | | | |
| 0 | 1-696-819-11 | CORD, POWER (AUS) | | | |
| 0 | 1-769-608-11 | CORD, POWER (AEP, E) | | | |

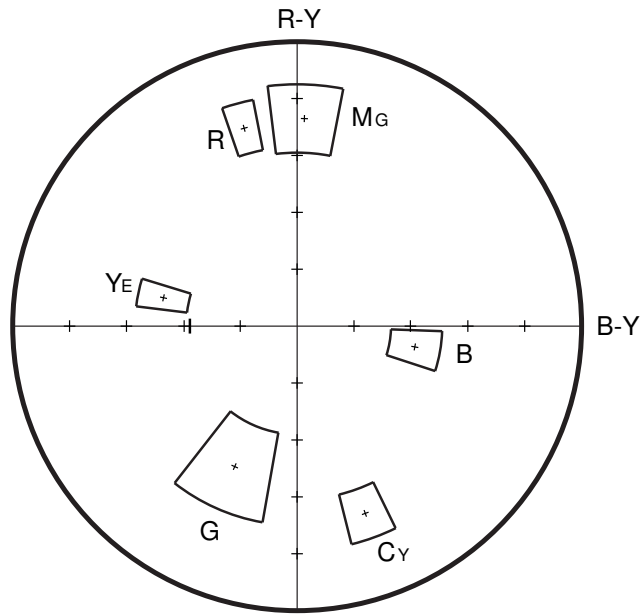
The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque 0 sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

FOR CAMERA COLOR REPRODUCTION ADJUSTMENT

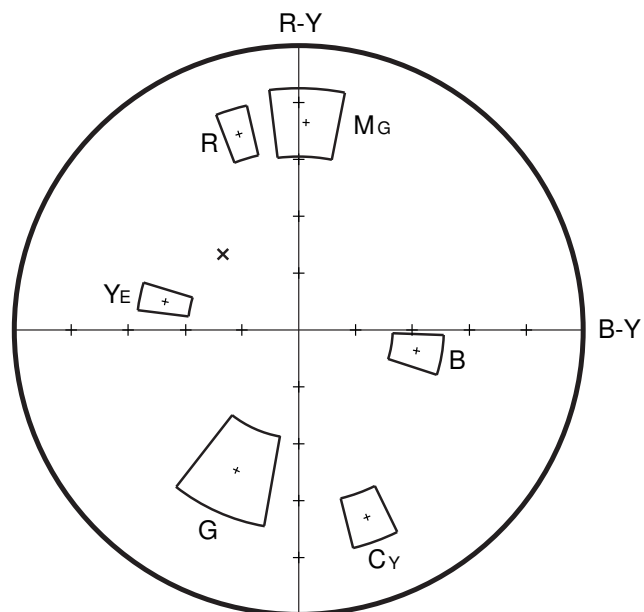
Take a copy of CAMERA COLOR
REPRODUCTION FRAME with a
clear sheet for use.

For NTSC mode



MVC-FD100/FD200

For PAL mode



MVC-FD100/FD200

MVC-FD100/FD100H/FD200/FD200H

SONY

SERVICE MANUAL

Level 2

Ver 1.1 2003. 03

US Model
MVC-FD100/FD100H/FD200/FD200H

Canadian Model
MVC-FD100/FD200

AEP Model

UK Model
MVC-FD200

E Model

Japanese Model
MVC-FD100/FD200

Australian Model

Brazilian Model
MVC-FD100

SUPPLEMENT-1

File this supplement with the service manual.
(PV02-014)

• Addition of Brazilian Model (FD100)

Note: Any particular parts for Brazilian Model are not especially prepared.
Therefore, there are no differences in the contents of the service manual.

MVC-FD100/FD100H/FD200/FD200H

SONY

SERVICE MANUAL

Level 2

Ver 1.3 2003. 05

US Model
MVC-FD100/FD100H/FD200/FD200H

Canadian Model
MVC-FD100/FD200

AEP Model

UK Model
MVC-FD200

E Model

Japanese Model
MVC-FD100/FD200

Australian Model

Brazilian Model
MVC-FD100

SUPPLEMENT-2

File this supplement with the service manual.

(PV02-019)

- Suffix number of the following boards are Changed from [-11]to [-13]
(CD-379, CD-390, PK-61 and FU-159 board)
- Change of repair parts.

Note:

Suffix No. [-12]does not exist for CD-379, CD-390, PK-61 and FU-159 boards.

Comparison between suffix-11 and suffix-13

| | |
|--------------|----------------|
| CD-379 board | No differences |
| CD-390 board | No differences |
| PK-61 board | Different |
| FU-159 board | Different |

Note:

Since CD-379 board and CD-390 board are not changed,
refer to information about suffix [-11]

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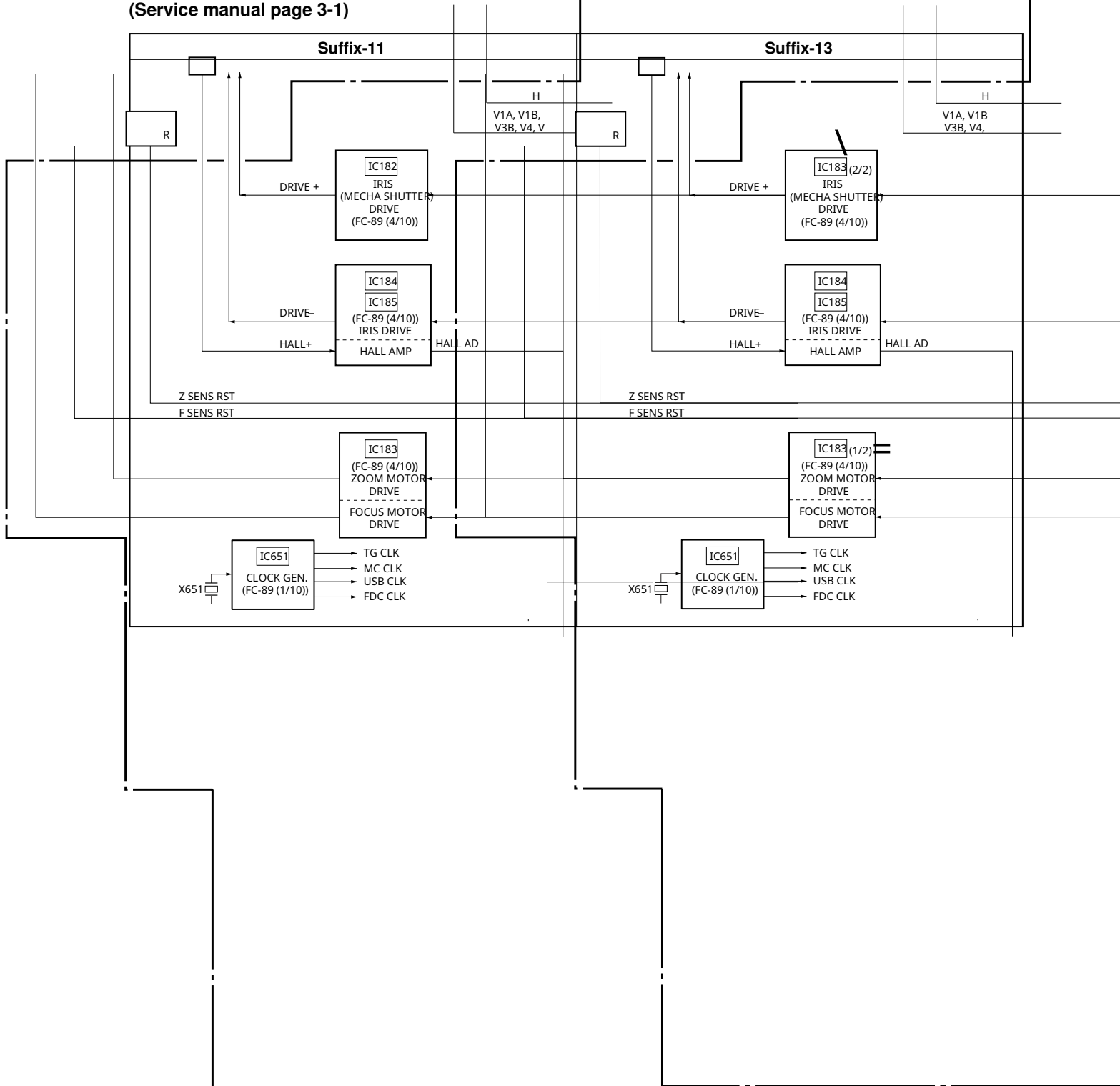
| <u>Section</u> | <u>Title</u> | <u>Page</u> |
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MVC-FD100/FD100H/FD200/FD200H

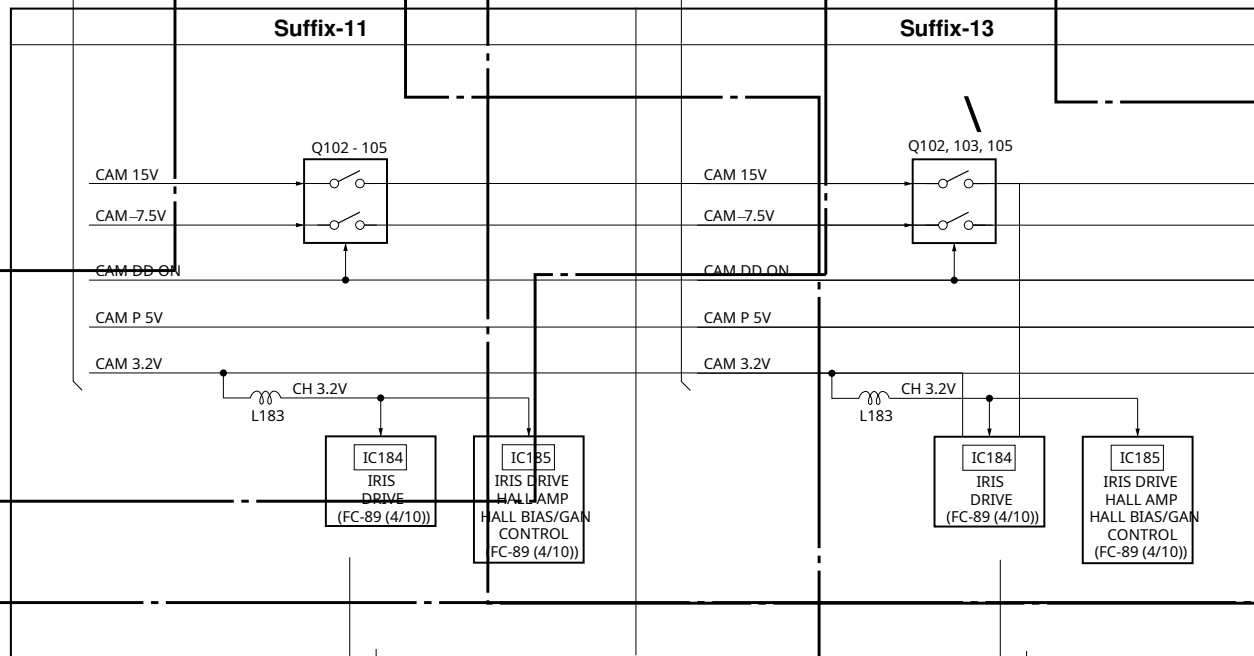
SECTION 3 BLOCK DIAGRAMS

— : Points changed portion,

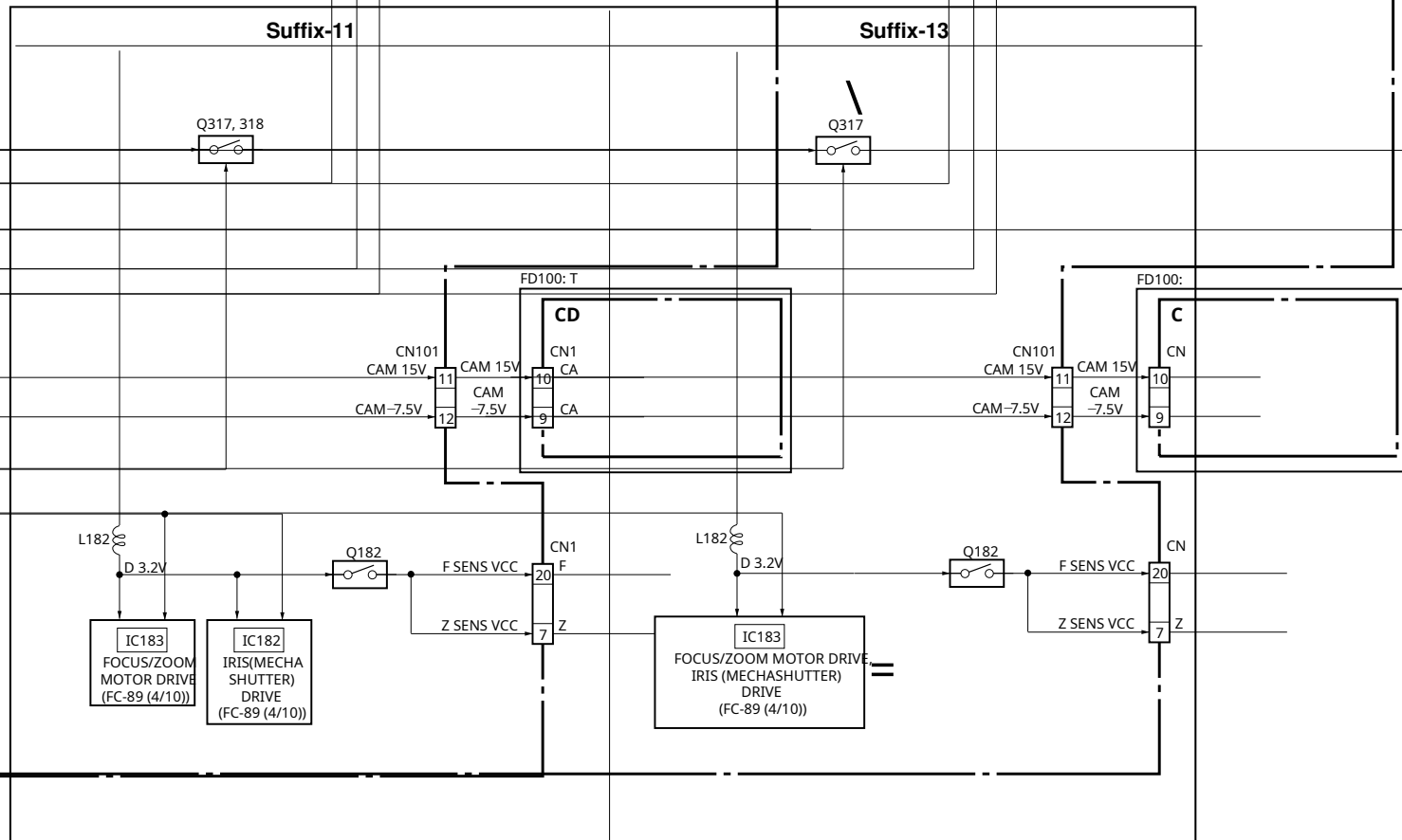
3-1. OVERALL BLOCK DIAGRAM (Service manual page 3-1)



3-10 POWER BLOCK DIAGRAM 2
(Service manual page 3-19)



(Service manual page 3-20E)

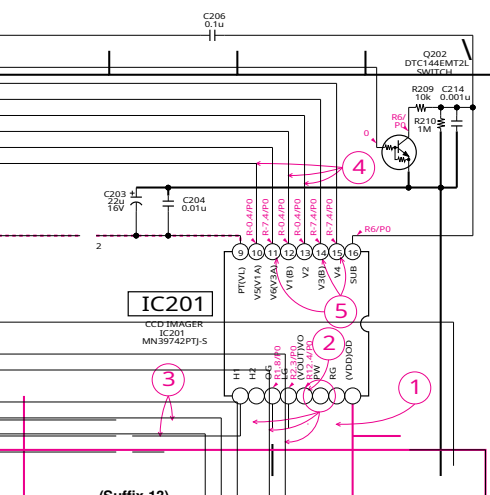


SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

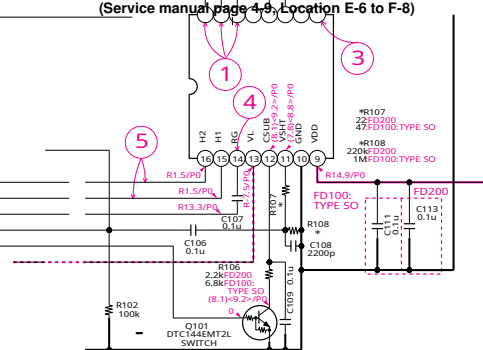
4-2. SCHEMATIC DIAGRAMS

- : Points changed portion

(Suffix-13)
CD-379 (CCD IMAGER) SCHEMATIC DIAGRAM
(Service manual page 4-8, Location C-6 to E-8)



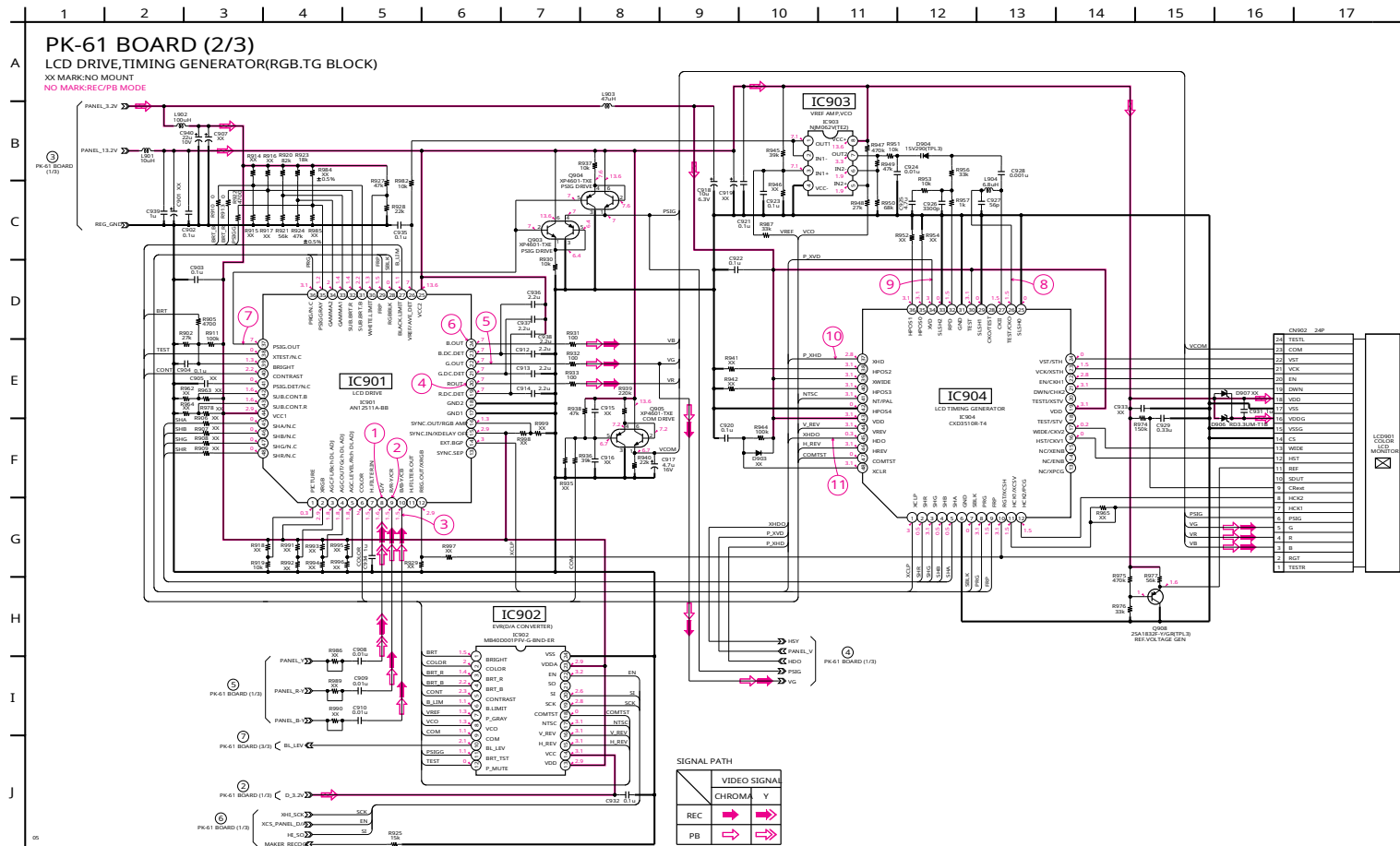
(Suffix-13)
CD-390 (CCD IMAGER) SCHEMATIC DIAGRAM
(Service manual page 4-9, Location E-6 to F-8)



(Suffix-13)
PK-61 (MODE SWITCH, VIDEO OUT) SCHEMATIC DIAGRAM • See page 4-35 for PK-61 printed wiring board.

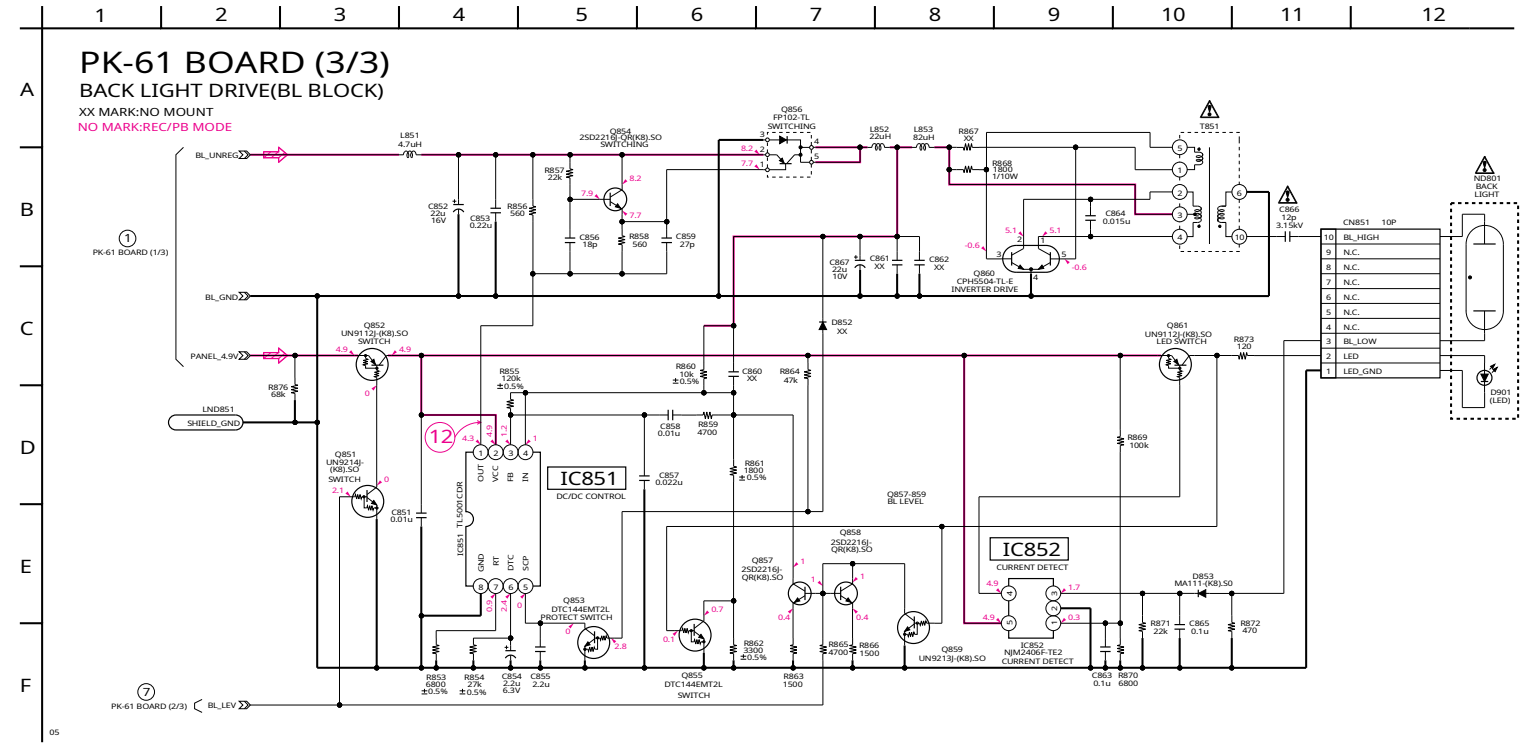


(Suffix-13)
 PK-61 (LCD DRIVE, TIMING GENERATOR) SCHEMATIC DIAGRAM • See page 4-35 for PK-61 printed wiring board.



MVC-FD100/FD100H/FD200/FD200H

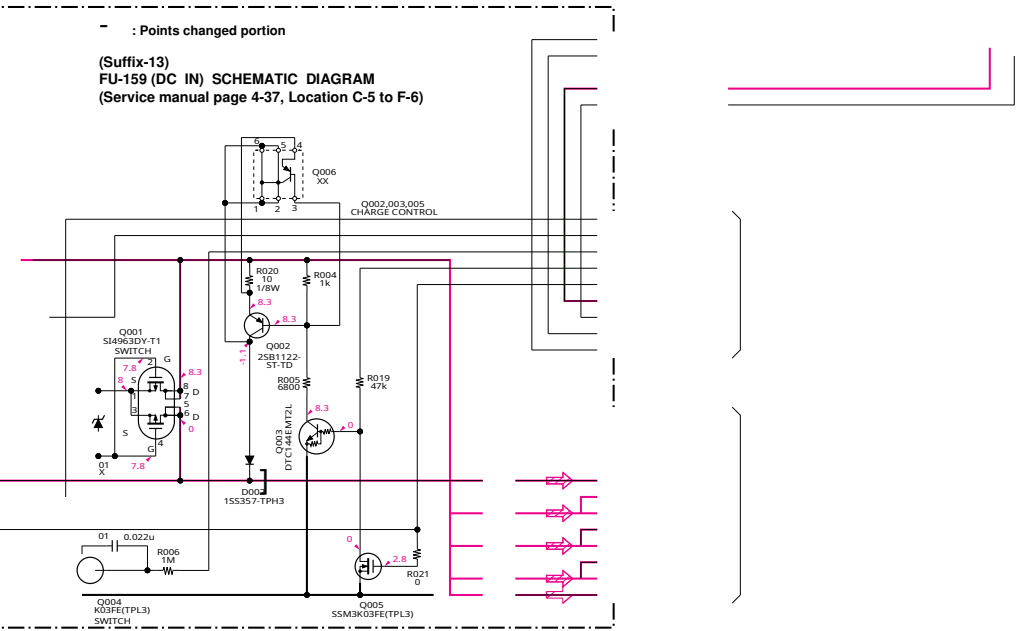
(Suffix-13)
PK-61 (BACK LIGHT DRIVE) SCHEMATIC DIAGRAM • See page 4-35 for PK-61 printed wiring board.




The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified.

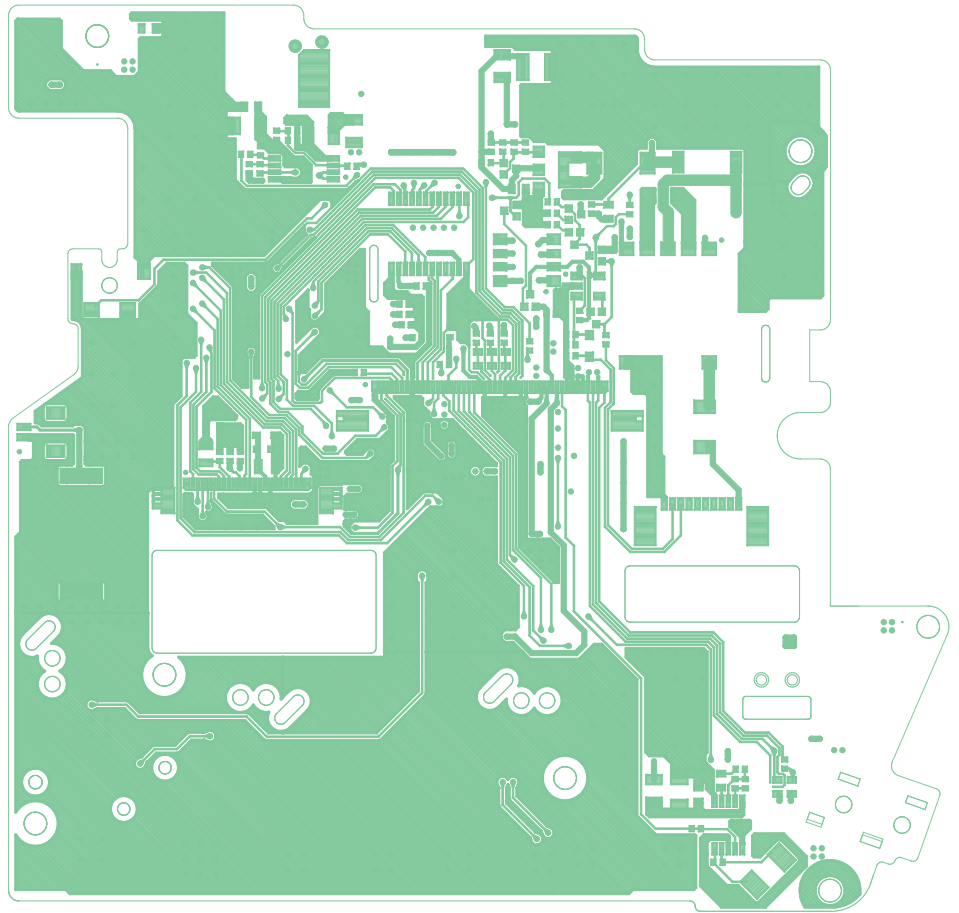
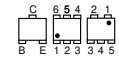
Les composants identifiés par une marque 0 sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

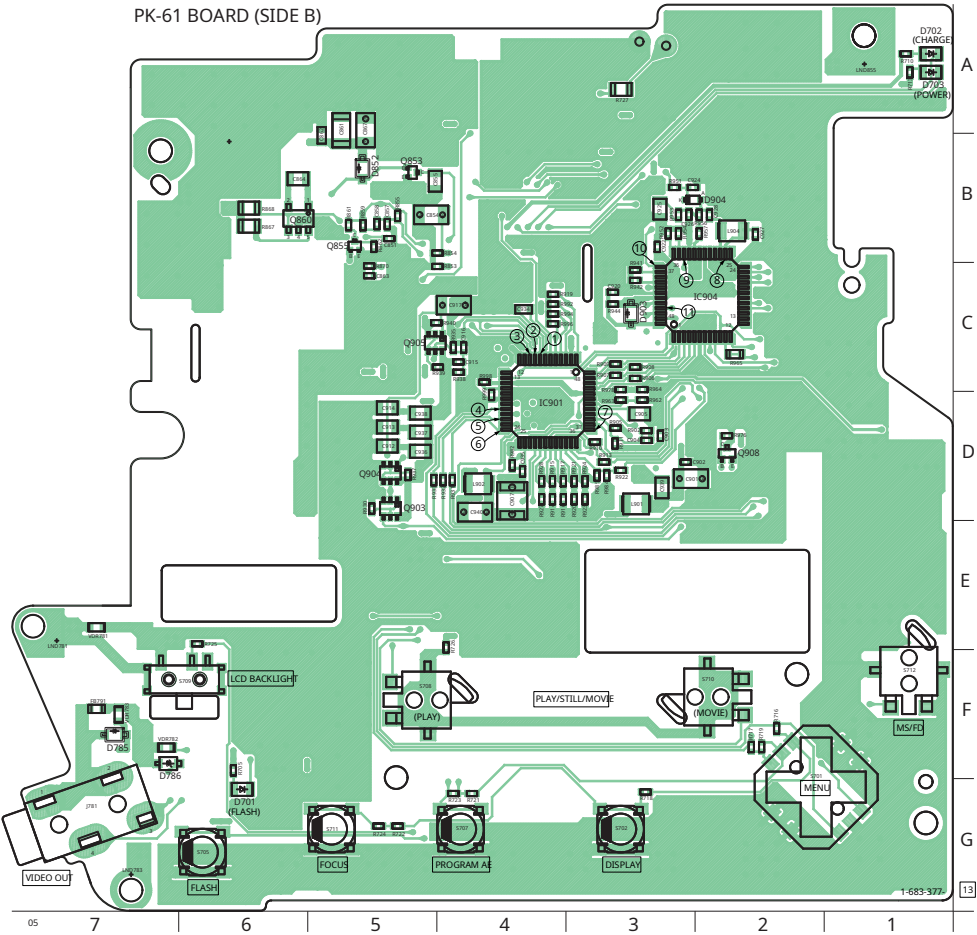
MVC-FD100/FD100H/FD200/FD200H



MVC-FD100/FD100H/FD200/FD200H

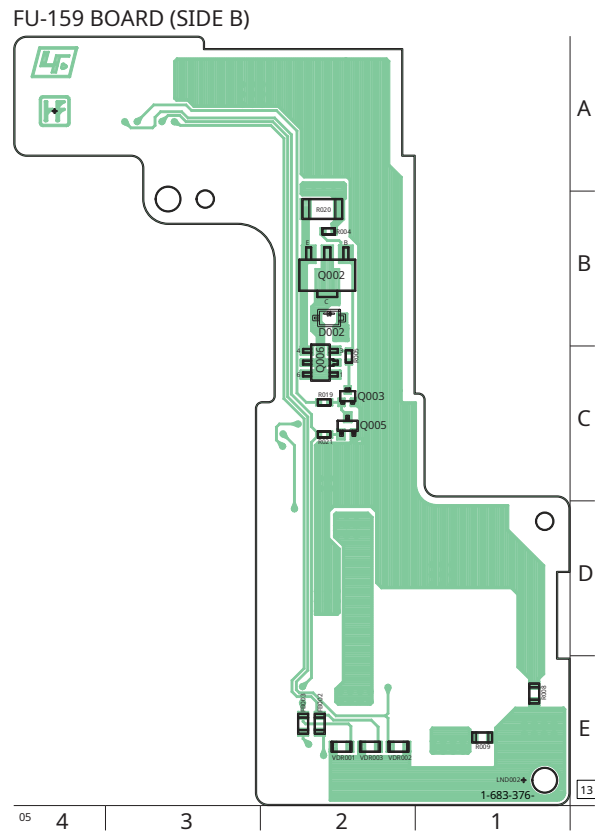
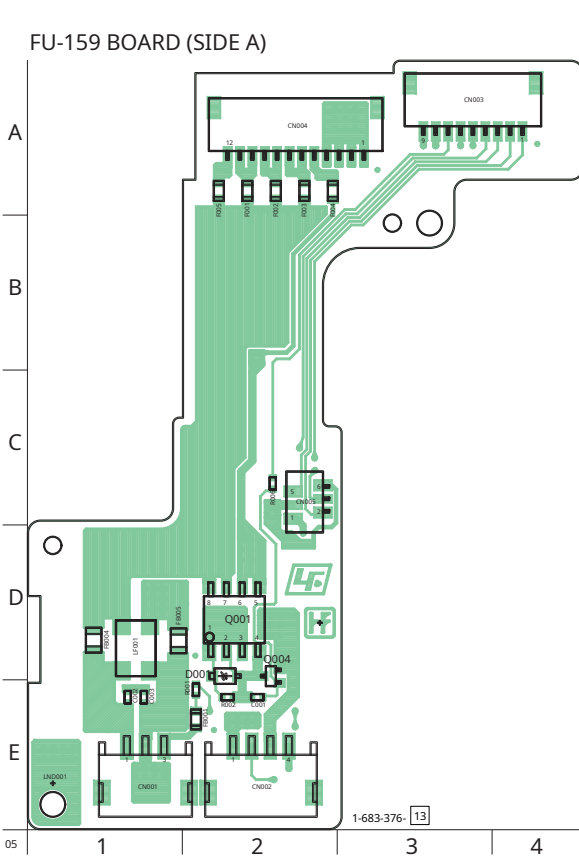
- For Printed Wiring Board.
-  Uses unleaded solder.
- PK-61 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- There are a few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-50 for printed parts location.
- Chip transistor





(Suffix-13)
FU-159 (DC IN) PRINTED WIRING BOARD

- **For Printed Wiring Board.**
- **Ⓢ** :Uses unleaded solder.
- FU-159 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- There are a few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-51 for printed parts location.
- Chip transistor



4-5. PARTS LOCATION (Suffix-13)

no mark : SIDE A

* mark : SIDE B

PK-61BOARD

| | | | |
|---------|-----|--------|-----|
| BT701 | A-3 | | |
| | | L702 | G-6 |
| C705 | G-6 | L851 | A-4 |
| C706 | G-6 | L852 | B-5 |
| C710 | G-6 | L853 | B-6 |
| C711 | G-6 | * L901 | D-3 |
| * C851 | B-5 | * L902 | D-4 |
| C852 | A-5 | L903 | A-3 |
| C853 | B-4 | * L904 | B-2 |
| * C854 | B-5 | | |
| * C855 | B-5 | Q851 | B-4 |
| C856 | B-4 | Q852 | C-4 |
| * C857 | B-5 | * Q853 | B-5 |
| * C858 | B-5 | Q854 | B-4 |
| C859 | B-5 | * Q855 | B-5 |
| * C863 | C-5 | Q856 | B-5 |
| * C864 | B-6 | Q857 | B-5 |
| C865 | C-5 | Q858 | B-5 |
| C866 | D-6 | Q859 | B-5 |
| * C867 | A-5 | * Q860 | B-6 |
| * C902 | D-3 | Q861 | C-5 |
| * C903 | D-3 | * Q903 | D-5 |
| * C904 | D-3 | * Q904 | D-5 |
| C908 | C-4 | * Q905 | C-5 |
| C909 | C-4 | * Q908 | D-2 |
| C910 | C-4 | | |
| * C912 | D-5 | * R705 | F-6 |
| * C913 | D-5 | * R710 | A-1 |
| * C914 | D-5 | * R713 | A-1 |
| * C917 | C-4 | R714 | F-6 |
| C918 | B-3 | R715 | G-6 |
| * C920 | C-3 | * R716 | F-2 |
| C921 | A-2 | * R717 | F-2 |
| * C922 | B-3 | * R718 | G-3 |
| C923 | A-3 | * R719 | F-2 |
| * C924 | B-3 | * R721 | G-4 |
| * C925 | B-3 | * R722 | G-5 |
| * C926 | B-3 | * R723 | G-4 |
| * C927 | B-2 | * R724 | G-5 |
| * C928 | B-2 | * R725 | E-6 |
| C929 | D-2 | * R726 | E-4 |
| C931 | D-3 | * R727 | A-3 |
| C932 | C-4 | R782 | F-7 |
| * C934 | C-4 | * R853 | C-4 |
| * C935 | D-4 | * R854 | B-4 |
| * C936 | D-5 | * R855 | B-5 |
| * C937 | D-5 | R856 | B-4 |
| * C938 | D-5 | R857 | B-4 |
| * C939 | D-3 | R858 | B-4 |
| * C940 | D-4 | * R859 | B-5 |
| | | R860 | B-5 |
| CN701 | D-4 | * R861 | B-5 |
| CN702 | D-1 | * R862 | B-5 |
| CN851 | E-6 | R863 | B-5 |
| CN902 | D-2 | R864 | B-5 |
| | | R865 | B-5 |
| * D701 | G-6 | R866 | B-5 |
| * D702 | A-1 | * R868 | B-6 |
| * D703 | A-1 | R869 | C-5 |
| * D786 | F-7 | * R870 | C-5 |
| D853 | C-5 | R871 | C-5 |
| * D904 | B-2 | R872 | C-5 |
| D906 | D-2 | R873 | C-5 |
| | | R876 | C-5 |
| FB788 | G-7 | * R902 | D-3 |
| FB789 | G-6 | * R905 | D-3 |
| * FB791 | F-7 | * R910 | D-3 |
| | | * R911 | D-3 |
| IC702 | G-6 | * R913 | D-3 |
| IC851 | B-5 | * R919 | C-4 |
| IC852 | C-5 | * R920 | D-3 |
| * IC901 | D-4 | * R921 | D-3 |
| IC902 | B-4 | * R922 | D-3 |
| IC903 | B-3 | * R923 | D-3 |
| * IC904 | C-2 | * R924 | D-3 |
| | | R925 | C-3 |
| * J781 | G-7 | * R927 | D-4 |

FU-159BOARD

| | | | |
|---------|-----|--------|-----|
| C001 | E-2 | | |
| | | * R928 | D-4 |
| | | * R930 | D-5 |
| | | * R931 | D-4 |
| CN001 | E-1 | * R932 | C-4 |
| CN002 | E-2 | * R933 | D-5 |
| CN003 | A-3 | R936 | C-5 |
| CN004 | A-2 | * R937 | D-5 |
| CN005 | C-2 | * R938 | C-4 |
| | | * R939 | C-4 |
| * D002 | B-2 | * R940 | C-4 |
| | | * R944 | C-3 |
| F001 | A-2 | R945 | B-3 |
| F002 | A-2 | R947 | B-2 |
| F003 | A-2 | R948 | B-2 |
| F004 | A-2 | R949 | B-2 |
| F005 | A-2 | R950 | B-2 |
| | | * R951 | B-3 |
| FB001 | E-2 | * R953 | B-3 |
| * FB002 | E-2 | * R956 | B-2 |
| * FB003 | E-2 | * R957 | B-2 |
| | | R974 | D-2 |
| LF001 | D-1 | R975 | D-2 |
| | | * R976 | D-2 |
| Q001 | D-2 | R977 | D-2 |
| * Q002 | B-2 | * R982 | D-4 |
| * Q003 | C-2 | R987 | B-3 |
| Q004 | D-2 | | |
| * Q005 | C-2 | | |
| | | * S701 | F-2 |
| R001 | E-2 | * S702 | G-3 |
| R002 | E-2 | S703 | C-1 |
| * R004 | B-2 | * S705 | G-6 |
| * R005 | C-2 | * S707 | G-4 |
| R006 | C-2 | * S708 | F-5 |
| * R008 | E-1 | * S709 | F-6 |
| R019 | C-2 | * S710 | F-2 |
| R020 | B-2 | * S711 | G-5 |
| R021 | C-2 | * S712 | F-1 |

SE701 G-6

T851 C-6

* VDR782 F-7

* VDR783 F-7

VDR851 A-2

SECTION 6 REPAIR PARTS LIST

— : Points changed portion

6-1. EXPLODED VIEWS

• Change of repair parts

6-1-1. CABINET (FRONT) SECTION

| Page | Former Type | | | New Type | | |
|------|-----------------|-----------------|-------------------------|-----------------|-----------------|-------------------------|
| | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
| 6-1 | BT901 | 1-694-297-21 | TERMINAL BOARD, BATTERY | BT901 | 1-694-297-41 | TERMINAL BOARD, BATTERY |
| | | | | | | [|

6-1-4. CABINET (REAR) SECTION

| Page | Former Type | | | New Type | | |
|------|-----------------|-----------------|------------------------|-----------------|-----------------|------------------------|
| | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
| 6-4 | BZ901 | 1-529-739-11 | BUZZER, PIEZO ELECTRIC | BZ901 | 1-825-273-31 | BUZZER, PIEZO ELECTRIC |
| | | | | | | [|

6-1-5. CABINET (REAR) ASSEMBLY

| Page | Former Type | | | New Type | | |
|------|-----------------|-----------------|---------------------|-----------------|-----------------|---------------------|
| | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
| 6-5 | 215 | 3-058-785-01 | SPRING, LOCK BUTTON | 215 | 3-069-194-01 | SPRING, LOCK BUTTON |
| | | | | | | [|

6-1-6. LENS BLOCK SECTION

| Page | Former Type | | | New Type | | |
|------|-----------------|-----------------|-------------------------------------|-----------------|-----------------|-------------------------------------|
| | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
| 6-6 | IC101 | A-7095-033-A | CCD BLOCK ASSY (CCD IMAGER) (FD200) | IC101 | A-7031-265-A | CCD BLOCK ASSY (CCD IMAGER) (FD200) |
| | | | | | | [|

6-2. ELECTRICAL PARTS LIST

• Different Parts List

| Page | Suffix-11 | Suffix-13 |
|------|---|---|
| 6-7 | <p>Ref. No. Part No. Description</p> <p>A-7078-141-A CD-379 BOARD, COMPLETE (FD100: TYPE PA) *****</p> <p>< TRANSISTOR ></p> <p>Q202 8-729-037-74 TRANSISTOR UN9213J- (TX) .SO</p> <p>A-7078-137-A CD-390 BOARD, COMPLETE (FD100: TYPE SO)</p> <p>A-7078-144-A CD-390 BOARD, COMPLETE (FD200) *****</p> | <p>Ref. No. Part No. Description</p> <p>A-7078-141-A CD-379 BOARD, COMPLETE (FD100: TYPE PA) *****</p> <p>< TRANSISTOR ></p> <p>Q202 6-550-119-01 TRANSISTOR DTC144EMT2L</p> <p>A-7078-137-A CD-390 BOARD, COMPLETE (FD100: TYPE SO)</p> <p>A-7078-144-A CD-390 BOARD, COMPLETE (FD200) *****</p> |
| 6-8 | <p>< TRANSISTOR ></p> <p>Q101 8-729-037-74 TRANSISTOR UN9213J- (TX) .SO</p> | <p>< TRANSISTOR ></p> <p>Q101 6-550-119-01 TRANSISTOR DTC144EMT2L</p> |
| 6-16 | <p>A-7078-139-A FU-159 BOARD, COMPLETE *****</p> <p>< TRANSISTOR ></p> <p>Q003 8-729-037-74 TRANSISTOR UN9213J- (TX) .SO</p> | <p>A-7078-139-A FU-159 BOARD, COMPLETE *****</p> <p>< TRANSISTOR ></p> <p>Q003 6-550-119-01 TRANSISTOR DTC144EMT2L</p> |

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|--|--------------|----------------------------|-----------|------------------|--------------|--------------------------------|--------------|
| A-7078-140-A PK-61 BOARD, COMPLETE (Suffix-13) | | | | < CONNECTOR > | | | |
| ***** | | | | CN701 | 1-774-054-21 | CONNECTOR, FFC/FPC (ZIF) 45P | |
| < BATTERY > | | | | CN702 | 1-784-342-11 | HOUSING, CONNECTOR 2P | |
| BT701 | 1-756-102-22 | BATTERY, LITHIUM SECONDARY | | CN851 | 1-764-709-11 | CONNECTOR, FFC/FPC (LIF) 10P | |
| < CAPACITOR > | | | | CN902 | 1-691-362-11 | CONNECTOR, FFC/FPC (ZIF) 24P | |
| C705 | 1-119-750-11 | TANTAL. CHIP 22uF | 20% 6.3V | < DIODE > | | | |
| C706 | 1-115-467-11 | CERAMIC CHIP 0.22uF | 10% 10V | D701 | 8-719-061-81 | DIODE TLYU1002 (TPX1, SONY) | (FLASH LED) |
| C710 | 1-125-891-11 | CERAMIC CHIP 0.47uF | 10% 10V | D702 | 8-719-061-81 | DIODE TLYU1002 (TPX1, SONY) | (CHARGE LED) |
| C711 | 1-164-876-11 | CERAMIC CHIP 120PF | 5% 50V | D703 | 8-719-064-05 | DIODE TLGU1002 (TPX1, SONY) | (POWER LED) |
| C851 | 1-164-943-11 | CERAMIC CHIP 0.01uF | 10% 16V | D786 | 8-719-073-03 | DIODE MA8082- (K8).SO | |
| C852 | 1-119-751-11 | TANTAL. CHIP 22uF | 20% 16V | D853 | 8-719-073-01 | DIODE MA111- (K8).SO | |
| C853 | 1-165-128-11 | CERAMIC CHIP 0.22uF | 16V | D904 | 8-719-084-47 | DIODE 1SV290 (TPL3) | |
| C854 | 1-135-149-21 | TANTALUM CHIP 2.2uF | 20% 10V | D906 | 8-719-050-42 | DIODE RD3.3UM-T1B | |
| C855 | 1-164-505-11 | CERAMIC CHIP 2.2uF | 16V | < FERRITE BEAD > | | | |
| C856 | 1-164-856-81 | CERAMIC CHIP 18PF | 5% 50V | FB788 | 1-414-228-11 | FERRITE 0UH | |
| C857 | 1-107-819-11 | CERAMIC CHIP 0.022uF | 10% 16V | FB789 | 1-500-284-21 | FERRITE 0UH | |
| C858 | 1-164-943-11 | CERAMIC CHIP 0.01uF | 10% 16V | FB791 | 1-216-864-11 | METAL CHIP 0 5% 1/10W | (Note) |
| C859 | 1-164-860-11 | CERAMIC CHIP 27PF | 5% 50V | < IC > | | | |
| C863 | 1-125-777-11 | CERAMIC CHIP 0.1uF | 10% 10V | IC702 | 8-759-572-54 | IC TA6009FN (EL) | |
| C864 | 1-164-657-11 | CERAMIC CHIP 0.015uF | 10% 50V | IC851 | 8-759-521-35 | IC TL5001CDR | |
| C865 | 1-125-777-11 | CERAMIC CHIP 0.1uF | 10% 10V | IC852 | 8-759-710-82 | IC NJM2406F-TE2 | |
| 0 C866 | 1-100-371-11 | CERAMIC CHIP 12PF | 5% 3.15KV | IC901 | 6-700-684-01 | IC AN12511A-BB | |
| C867 | 1-165-897-11 | TANTAL. CHIP 22UF | 20% 10V | IC902 | 8-759-364-05 | IC MB40D001PFV-G-BND-ER | |
| C902 | 1-107-820-11 | CERAMIC CHIP 0.1uF | 16V | IC903 | 8-759-327-01 | IC NJM062V (TE2) | |
| C903 | 1-125-777-11 | CERAMIC CHIP 0.1uF | 10% 10V | IC904 | 8-752-405-01 | IC CXD3510R-T4 | |
| C904 | 1-125-777-11 | CERAMIC CHIP 0.1uF | 10% 10V | < JACK > | | | |
| C908 | 1-164-943-11 | CERAMIC CHIP 0.01uF | 10% 16V | J781 | 1-569-950-31 | JACK (SMALL TYPE) (VIDEO OUT) | |
| C909 | 1-164-943-11 | CERAMIC CHIP 0.01uF | 10% 16V | < COIL > | | | |
| C910 | 1-164-943-11 | CERAMIC CHIP 0.01uF | 10% 16V | L702 | 1-469-527-91 | INDUCTOR 47uH | |
| C912 | 1-125-889-91 | CERAMIC CHIP 2.2uF | 10% 10V | L851 | 1-469-524-91 | INDUCTOR 4.7uH | |
| C913 | 1-125-889-91 | CERAMIC CHIP 2.2uF | 10% 10V | L852 | 1-419-354-21 | INDUCTOR 22uH | |
| C914 | 1-125-889-91 | CERAMIC CHIP 2.2uF | 10% 10V | L853 | 1-428-878-11 | INDUCTOR 82uH | |
| C917 | 1-107-686-11 | TANTAL. CHIP 4.7uF | 20% 16V | L901 | 1-469-525-91 | INDUCTOR 10uH | |
| C918 | 1-135-259-11 | TANTAL. CHIP 10uF | 20% 6.3V | L902 | 1-469-528-91 | INDUCTOR 100uH | |
| C920 | 1-125-777-11 | CERAMIC CHIP 0.1uF | 10% 10V | L903 | 1-469-527-91 | INDUCTOR 47uH | |
| C921 | 1-107-826-11 | CERAMIC CHIP 0.1uF | 10% 16V | L904 | 1-412-949-21 | INDUCTOR 6.8uH | |
| C922 | 1-125-777-11 | CERAMIC CHIP 0.1uF | 10% 10V | < TRANSISTOR > | | | |
| C923 | 1-125-777-11 | CERAMIC CHIP 0.1uF | 10% 10V | Q851 | 8-729-042-72 | TRANSISTOR UN9214J- (K8).SO | |
| C924 | 1-164-943-11 | CERAMIC CHIP 0.01uF | 10% 16V | Q852 | 8-729-042-59 | TRANSISTOR UN9112J- (K8).SO | |
| C925 | 1-127-760-11 | CERAMIC CHIP 4.7uF | 10% 6.3V | Q853 | 6-550-119-01 | TRANSISTOR DTC144EMT2L | |
| C926 | 1-164-940-11 | CERAMIC CHIP 0.0033uF | 10% 16V | Q854 | 8-729-037-52 | TRANSISTOR 2SD2216J-QR (K8).SO | |
| C927 | 1-164-868-11 | CERAMIC CHIP 56PF | 5% 50V | Q855 | 6-550-119-01 | TRANSISTOR DTC144EMT2L | |
| C928 | 1-164-937-11 | CERAMIC CHIP 0.001uF | 10% 50V | Q856 | 8-729-823-84 | TRANSISTOR FP102-TL | |
| C929 | 1-110-501-11 | CERAMIC CHIP 0.33uF | 10% 16V | Q857 | 8-729-037-52 | TRANSISTOR 2SD2216J-QR (K8).SO | |
| C931 | 1-109-982-11 | CERAMIC CHIP 1uF | 10% 10V | Q858 | 8-729-037-52 | TRANSISTOR 2SD2216J-QR (K8).SO | |
| C932 | 1-125-777-11 | CERAMIC CHIP 0.1uF | 10% 10V | Q859 | 8-729-037-74 | TRANSISTOR UN9213J- (K8).SO | |
| C934 | 1-125-837-91 | CERAMIC CHIP 1uF | 10% 6.3V | Q860 | 6-550-065-01 | TRANSISTOR CPH5504-TL-E | |
| C935 | 1-125-777-11 | CERAMIC CHIP 0.1uF | 10% 10V | | | | |
| C936 | 1-125-889-91 | CERAMIC CHIP 2.2uF | 10% 10V | | | | |
| C937 | 1-125-889-91 | CERAMIC CHIP 2.2uF | 10% 10V | | | | |
| C938 | 1-125-889-91 | CERAMIC CHIP 2.2uF | 10% 10V | | | | |
| C939 | 1-127-573-11 | CERAMIC CHIP 1uF | 10% 16V | | | | |
| C940 | 1-165-897-11 | TANTAL. CHIP 22UF | 20% 10V | | | | |

(Note) Resistor is mounted to the location where FB791 is printed.

The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque 0 sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|--------------|--------------|-------------|----------------------|-----------------|--------------|----------------------------------|---------------|
| Q861 | 8-729-042-59 | TRANSISTOR | UN9112J- (K8).SO | R928 | 1-218-969-11 | RES-CHIP | 22K 5% 1/16W |
| Q903 | 8-729-427-74 | TRANSISTOR | XP4601-TXE | R930 | 1-218-965-11 | RES-CHIP | 10K 5% 1/16W |
| Q904 | 8-729-427-74 | TRANSISTOR | XP4601-TXE | R931 | 1-218-941-81 | RES-CHIP | 100 5% 1/16W |
| Q905 | 8-729-427-74 | TRANSISTOR | XP4601-TXE | R932 | 1-218-941-81 | RES-CHIP | 100 5% 1/16W |
| Q908 | 8-729-037-53 | TRANSISTOR | 2SA1832F-Y/GR (TPL3) | | | | |
| < RESISTOR > | | | | R933 | 1-218-941-81 | RES-CHIP | 100 5% 1/16W |
| R705 | 1-218-951-11 | RES-CHIP | 680 5% 1/16W | R936 | 1-218-972-11 | RES-CHIP | 39K 5% 1/16W |
| R710 | 1-218-946-11 | RES-CHIP | 270 5% 1/16W | R937 | 1-218-965-11 | RES-CHIP | 10K 5% 1/16W |
| R713 | 1-218-951-11 | RES-CHIP | 680 5% 1/16W | R938 | 1-218-973-11 | RES-CHIP | 47K 5% 1/16W |
| R714 | 1-208-912-11 | METAL CHIP | 11K 0.5% 1/16W | R939 | 1-218-981-11 | RES-CHIP | 220K 5% 1/16W |
| R715 | 1-218-978-11 | RES-CHIP | 120K 5% 1/16W | | | | |
| R716 | 1-218-956-11 | RES-CHIP | 1.8K 5% 1/16W | R940 | 1-218-969-11 | RES-CHIP | 22K 5% 1/16W |
| R717 | 1-218-956-11 | RES-CHIP | 1.8K 5% 1/16W | R944 | 1-218-977-11 | RES-CHIP | 100K 5% 1/16W |
| R718 | 1-218-958-11 | RES-CHIP | 2.7K 5% 1/16W | R945 | 1-218-972-11 | RES-CHIP | 39K 5% 1/16W |
| R719 | 1-218-958-11 | RES-CHIP | 2.7K 5% 1/16W | R947 | 1-218-985-11 | RES-CHIP | 470K 5% 1/16W |
| R721 | 1-218-961-11 | RES-CHIP | 4.7K 5% 1/16W | R948 | 1-218-970-11 | RES-CHIP | 27K 5% 1/16W |
| R722 | 1-218-961-11 | RES-CHIP | 4.7K 5% 1/16W | R949 | 1-218-973-11 | RES-CHIP | 47K 5% 1/16W |
| R723 | 1-218-963-11 | RES-CHIP | 6.8K 5% 1/16W | R950 | 1-218-975-11 | RES-CHIP | 68K 5% 1/16W |
| R724 | 1-218-972-11 | RES-CHIP | 39K 5% 1/16W | R951 | 1-218-965-11 | RES-CHIP | 10K 5% 1/16W |
| R725 | 1-218-971-11 | RES-CHIP | 33K 5% 1/16W | R953 | 1-218-965-11 | RES-CHIP | 10K 5% 1/16W |
| R726 | 1-218-965-11 | RES-CHIP | 10K 5% 1/16W | R956 | 1-218-971-11 | RES-CHIP | 33K 5% 1/16W |
| R727 | 1-216-013-00 | METAL CHIP | 33 5% 1/10W | R957 | 1-218-953-11 | RES-CHIP | 1K 5% 1/16W |
| R782 | 1-218-953-11 | RES-CHIP | 1K 5% 1/16W | R974 | 1-218-979-11 | RES-CHIP | 150K 5% 1/16W |
| R853 | 1-208-703-11 | METAL CHIP | 6.8K 0.5% 1/16W | R975 | 1-218-985-11 | RES-CHIP | 470K 5% 1/16W |
| R854 | 1-218-970-11 | METAL CHIP | 27K 0.5% 1/16W | R976 | 1-218-971-11 | RES-CHIP | 33K 5% 1/16W |
| R855 | 1-218-978-11 | METAL CHIP | 120K 0.5% 1/16W | R977 | 1-218-974-11 | RES-CHIP | 56K 5% 1/16W |
| R856 | 1-218-950-11 | RES-CHIP | 560 5% 1/16W | | | | |
| R857 | 1-218-969-11 | RES-CHIP | 22K 5% 1/16W | < SWITCH > | | | |
| R858 | 1-218-950-11 | RES-CHIP | 560 5% 1/16W | S701 | 1-786-039-21 | SWITCH, TACTILE (MENU) | |
| R859 | 1-218-961-11 | RES-CHIP | 4.7K 5% 1/16W | S702 | 1-771-138-82 | SWITCH, KEY BOARD (DISPLAY) | |
| R860 | 1-208-707-11 | METAL CHIP | 10K 0.5% 1/16W | S703 | 1-771-039-31 | SWITCH, PUSH (POWR ON/OFF (CHG)) | |
| R861 | 1-208-689-11 | METAL CHIP | 1.8K 0.5% 1/16W | S705 | 1-771-138-82 | SWITCH, KEY BOARD (FLASH) | |
| R862 | 1-208-695-11 | METAL CHIP | 3.3K 0.5% 1/16W | S707 | 1-771-138-82 | SWITCH, KEY BOARD (PROGRAM AE) | |
| R863 | 1-218-955-11 | RES-CHIP | 1.5K 5% 1/16W | S708 | 1-771-039-31 | SWITCH, PUSH (PLAY) | |
| R864 | 1-218-973-11 | RES-CHIP | 47K 5% 1/16W | S709 | 1-762-741-11 | SWITCH, SLIDE (LCD BACK LIGHT) | |
| R865 | 1-218-961-11 | RES-CHIP | 4.7K 5% 1/16W | S710 | 1-771-039-31 | SWITCH, PUSH (MOVIE) | |
| R866 | 1-218-955-11 | RES-CHIP | 1.5K 5% 1/16W | S711 | 1-771-138-82 | SWITCH, KEY BOARD (FOCUS) | |
| R868 | 1-216-055-00 | METAL CHIP | 1.8K 5% 1/10W | S712 | 1-771-040-31 | SWITCH, PUSH (MS/FD) | |
| R869 | 1-218-977-11 | RES-CHIP | 100K 5% 1/16W | | | | |
| R870 | 1-218-963-11 | RES-CHIP | 6.8K 5% 1/16W | < SENSOR > | | | |
| R871 | 1-218-969-11 | RES-CHIP | 22K 5% 1/16W | SE701 | 1-801-868-41 | SENSOR, SHOCK | |
| R872 | 1-218-949-11 | RES-CHIP | 470 5% 1/16W | | | | |
| R873 | 1-218-942-11 | RES-CHIP | 120 5% 1/16W | < TRANSFORMER > | | | |
| R876 | 1-218-975-11 | RES-CHIP | 68K 5% 1/16W | O T851 | 1-435-786-31 | TRANSFORMER, INVERTER | |
| R902 | 1-218-970-11 | RES-CHIP | 27K 5% 1/16W | | | | |
| R905 | 1-218-961-11 | RES-CHIP | 4.7K 5% 1/16W | < VARISTOR > | | | |
| R910 | 1-218-990-11 | SHORT CHIP | 0 | VDR782 | 1-803-974-21 | VARISTOR, CHIP (1608) | |
| R911 | 1-218-977-11 | RES-CHIP | 100K 5% 1/16W | VDR783 | 1-801-862-11 | VARISTOR, CHIP (1608) | |
| R913 | 1-218-990-11 | SHORT CHIP | 0 | VDR851 | 1-801-862-11 | VARISTOR, CHIP (1608) | |
| R919 | 1-218-965-11 | RES-CHIP | 10K 5% 1/16W | | | | |
| R920 | 1-218-976-11 | RES-CHIP | 82K 5% 1/16W | | | | |
| R921 | 1-218-974-11 | RES-CHIP | 56K 5% 1/16W | | | | |
| R922 | 1-218-961-11 | RES-CHIP | 4.7K 5% 1/16W | | | | |
| R923 | 1-218-968-11 | RES-CHIP | 18K 5% 1/16W | | | | |
| R924 | 1-218-973-11 | RES-CHIP | 47K 5% 1/16W | | | | |
| R925 | 1-218-967-11 | RES-CHIP | 15K 5% 1/16W | | | | |
| R927 | 1-218-973-11 | RES-CHIP | 47K 5% 1/16W | | | | |

The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque 0 sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

— : Points changed portion

• Change of repair parts

| Page | Former Type | | | | | | | New Type | | | | | | |
|--|---|--|---|----|----|------------------|--|---|--|---|----|----|------------------|--|
| 6-7 | Ref. No. | Part No. | Description | | | | | Ref. No. | Part No. | Description | | | | |
| | | | A-7078-137-A CD-390 BOARD, COMPLETE (FD100: TYPE SO) A-7078-144-A CD-390 BOARD, COMPLETE (FD200) ***** | | | | | | | A-7078-137-A CD-390 BOARD, COMPLETE (FD100: TYPE SO) A-7078-144-A CD-390 BOARD, COMPLETE (FD200) ***** | | | | |
| 6-8 | < IC > | | | | | | | < IC > | | | | | | |
| | IC101 | A-7095-033-A CCD BLOCK ASSY (FD200) (Note) | | | | | | IC101 | A-7031-265-A CCD BLOCK ASSY (FD200) (Note) | | | | | |
| | < RESISTOR > | | | | | | | < RESISTOR > | | | | | | |
| | R107 | 1-208-643-11 | RES-CHIP | 22 | 5% | 1/16W (FD200) | | R107 | 1-218-933-11 | RES-CHIP | 22 | 5% | 1/16W (FD200) | |
| 6-18E | ACCESSORIES ***** | | | | | | | ACCESSORIES ***** | | | | | | |
| | 0 | 1-475-599-11 ADAPTOR, AC (AC-L10) | | | | | | 0 | 1-475-599-15 ADAPTOR, AC (AC-L10) | | | | | |
| | 1-792-955-11 CORD, CONNECTION (AV CONNECTING 1.5m) | | | | | | | 1-824-009-81 CORD, CONNECTION (AV CONNECTING 1.5m) | | | | | | |
| The components identified by mark 0 or dotted line with mark 0 are critical for safety. Replace only with part number specified. | | | | | | | Les composants identifiés par une marque 0 sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. | | | | | | | |

MVC-FD100/FD100H/FD200/FD200H

SONY

SERVICE MANUAL

Level 2

Ver 1.4 2003. 09

US Model

MVC-FD100/FD100H/FD200/FD200H

Canadian Model

MVC-FD100/FD200

AEP Model

UK Model

MVC-FD200

E Model

Australian Model

Japanese Model

MVC-FD100/FD200

Brazilian Model

MVC-FD100

SUPPLEMENT-3

File this supplement with the service manual.

(PV03-009)

- Addition of Australian Model (FD200)

Note: Any particular parts for Australian Model are not especially prepared.
Therefore, there are no differences in the contents of the service manual.
Since the accessories of the Australian Model of FD200 are common to the Australian Model of FD100, refer to it.
The other parts can use the contents of MVC-FD100/FD100H/FD200/FD200H service manual as it is.

Revision History

| Ver. | Date | History | Contents | S.M. Rev. issued |
|------|---------|---|--|------------------|
| 1.0 | 2002.01 | Official Release | — | — |
| 1.1 | 2003.03 | Supplement-1 (S1 PV02-014) | • Addition of Brazilian Model (FD100) | No |
| 1.2 | 2003.04 | Correction-1 (C1) | • Correction of repair parts S.M. correction : Page 6-16 | Yes |
| 1.3 | 2003.05 | Supplement-2 (S2 PV02-019) | • Suffix number of the following boards are changed from [-11]to [-13] (CD-379, CD-390, PK-61 and FU-159 board) • Change of repair parts | No |
| 1.4 | 2003.09 | Supplement-3 (S3 PV03-009) | • Addition of Australian Model (FD200) | No |
| | | | | |